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Inflectional Verbal Morphology in Nomatsigenga

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Inflectional Verbal Morphology in Nomatsigenga

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Data in this paper comes mostly from original fieldwork in the Nomatsigenga community San Antonio de Sonomoro during the summers of 2010, 2011, and 2012. Fieldwork was made possible by a Tinker grant in 2010, two Carlota Smith Research Fellowships for the summers of 2011 and 2012, and Sherzer Research Scholarships in 2010-2012.

Inflectional Verbal Morphology in Nomatsigenga

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This report describes inflectional verb morphology in Nomatsigenga, an Arawak language spoken in Peru. I first describe Nomatsigenga's systems of person, number, directionals, aspect, and reality status marking, cognates of which are also found in other Kampan languages. I also describe aspect markers, which seem to be a Nomatsigenga innovation among the Kampan languages. I will describe the structure of these markers, which show an interesting pattern of agreement with the absolutive argument. I further discuss the historical development of these markers, which have their source in the reanalysis of a set of noun class markers that also served as adjectivizers. I also discuss points relating to verb syntax, major word classes, and (morpho)phonology necessary in order to present a coherent description of verb morphology.

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Chapter 1

Introduction

In this paper, I describe inflectional verbal morphology in Nomatsigenga. Nomatsigenga[1] (iso: not, 639-9) is an Arawak language spoken in the Junín region of Perú. Nomatsigenga belongs to the Kampa or "Pre-Andine" branch of the Arawak language family (Lewis 2009). I discuss subject and object, participant number, directional, aspect, and reality status marking on the verb. I also discuss Nomatsigenga's system of Imperfective marking in more detail, which shows interesting patterns of agreement and is not found in other Kampan languages. I suggest a path of development from adjectivizers to aspect marking, based on reanalysis of two distinct markers as one construction.[2][3]

The goals of the paper are two fold. First, I intend to contribute to descriptive work on Nomatsigenga. Although there has been descriptive work

[1]Nomatsigenga has historically been spelled "Nomatsiguenga," but following a decision by Nomatsigenga speakers to eliminate orthographic 'u' following 'g,' I adopt the spelling "Nomatsigenga."

[2]Many thanks to all of my Nomatsigenga teachers, especially Napoleón Chimanga, Máximo Santos Shumpate, Lucila Ñaco and Leonor Rumiche Quintimari.

[3]Data in this paper comes mostly from original fieldwork in the Nomatsigenga community San Antonio de Sonomoro during the summers of 2010, 2011, and 2012. Fieldwork was made possible by a Tinker grant in 2010, two Carlota Smith Research Fellowships for the summers of 2011 and 2012, and Sherzer Research Scholarships in 2010-2012.

carried out on Nomatsigenga, much of the literature does not focus on 'lower-level' (phonological, morphological, syntactic) grammatical description. The subset of the work that does discuss these phenomena is often descriptively incomplete, with errors in morphological segmentation, failure to identify conditioning environments for morphophonological variants, and inaccurate descriptions of grammatical categories. This paper presents a more complete description than earlier work of verbal inflectional morphology, describing allomorphic variants and positional requirements for all verbal inflectional morphemes. Although other points of grammar are not discussed systematically, I also discuss criteria to distinguish major word classes, morphophonological phenomena, and describe alignment patterns in the language.

I also intend to contribute to the comparative linguistic literature, both typological and historical, especially with the discussions of reality status and Imperfective marking. Nomatsigenga uses verbal morphology to mark *every* clause as Realis 'real' or Irrealis 'not real,' which is interesting since realis/irrealis systems that morphologically mark the difference in every clause are relatively rare. I also discuss Imperfective marking, which is an innovation in Nomatsigenga, contributing to literature on the discussion of grammaticalization of aspect (specifically imperfective) markers. Other typologically interesting topics include Nomatsigenga's cross-cutting noun class systems (animate vs. inanimate and masculine vs. non-masculine) and display of both nominative-accusative and ergative-absolutive alignment properties.

1.1 Paper Preview

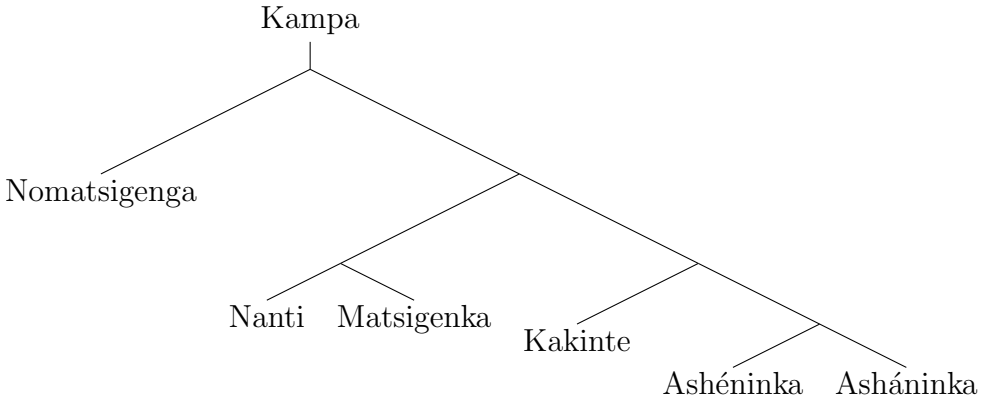
In this paper, I first present background on the Kampan group in §1.2 and previous work on the language in §1.3. I give an overview of the Nomatsigenga linguistic profile in §2, including phonological characteristics in §2.1 and morphophonemics in §2.2. I describe characteristics of verbs as a class in §2.2.1. I then present a description and analysis of inflectional verb morphology in Nomatsigenga. I begin with a presentation of the verb 'template,' followed by a discussion of what exactly constitutes inflectional morphology in Nomatsigenga, and combinatorial characteristics of inflectional morphology in §3. In §4, I describe the Nomatsigenga person-marking system, which distinguishes five persons in both free and bound pronominals: first person singular/plural exclusive, second person, third person non-masculine, third person masculine, and first person plural inclusive. Nomatsigenga also has two number markers, as described in §5. I describe three directional markers in §6. There are also several aspectual markers, which are described in §7. In §8, I describe reality status morphology, which marks the difference between realis and irrealis in all clauses. Finally, in §9, I discuss in detail a set of markers which mark imperfective aspect. Although other inflectional morphology is inherited from Proto-Kampa, the Imperfective markers, which have cognates in other Kampan language, have undergone semantic and structural shift. I present an analysis of the historical development of these markers in §10.

1.2 Kampa

Nomatsigenga is a member of the Kampan branch of the Arawak family. Other languages belonging to the Kampan branch include Matsigenka, Nanti, Kakinte, and the Ashéninka-Asháninka dialect chain.

Within the Kampan branch, the subgroupings have historically been somewhat unclear. Although earlier works (Kaufman 1994; Campbell 1997) differentiate only three different languages within the Kampan branch (and a number of dialects of each language), Aikhenvald (1999) and Michael (2008) both suggest six-language classifications. Aikhenvald (1999) suggests three distinct languages among the Ashéninka-Asháninka dialect chain. She separates Pajonal Campa (with a number of dialects) from Ashéninka and Asháninka. Nanti, most recently discovered, is missing from her classification. Michael (2011), the most recent work and the first to suggest subgroupings based on the comparative method (that is, suggesting subgroupings based solely on shared innovations that seem to reflect divergences from coordinate languages), argues for the structure shown in (1.1).

(1.1)



1.3 Previous Work on Nomatsigenga

Of the previous work on the Nomatsigenga language, the majority has been carried out by Summer Institute of Linguistics (SIL) researchers, mostly by Mary Ruth Wise and Harold Shaver. While there is a substantial body of research, a complete grammatical description does not exist, and it is difficult to recover grammatical information from the literature available. Wise (1971) discusses the mechanisms of participant tracking in Nomatsigenga discourse, but lower-level grammatical information is discussed unystematically. Wise (1969) describes pronominal representation. Wise (2002) includes a description of the wide range of Nomatsigenga applicative affixes.

Harold Shaver has also produced works for SIL, providing preliminary descriptions of modifiers (Shaver 1975b), time expressions (Shaver 1975a), various connecting constructions (Shaver 1982b) and the discourse particle *kará* (Shaver 1982a). He also compiled a dictionary (Shaver 1996). Collaborations have produced a collection of Nomatsigenga texts (Shaver & Shaver 1976) and an ethnography (Dodds & Shaver 1990). A short (less than 50 pages) grammar sketch is found in Shaver (1996). This grammar sketch is the most complete description to date of Nomatsigenga.

The description included in Shaver's grammatical sketch (Shaver 1996) and the other literature on Nomatsigenga is incomplete. While some shortcomings may be due to space limitations, others are due to underanalysis of the data. Furthermore, although the grammatical sketch lists a great deal of Nomatsigenga morphology, description of phonological, syntactic, semantic

and pragmatic grammatical phenomena is sparse or nonexistent. Even though morphology is *listed*, it is not described. Conditioning environments for allomorphy are not listed and segmentation of the morphemes is often incorrect. Finally, Shaver uses categories from Spanish or Indo-European grammatical descriptions. This terminology is used partly in an attempt to make the description useful to Spanish speakers, but this comes at the expense of scientific exactitude.

In recent years, undergraduate and graduate students from Peru have worked on Nomatsigenga. Talancha de la Cruz (2010) presents the results of an inquiry into the anthropological themes of power and solidarity as found in Nomatsigenga language use. However, the results of most work are largely unavailable to researchers in other countries. In the last few years, a small group of Peruvian students organized a series of linguistic workshops with the ultimate goal of standardizing the Nomatsigenga alphabet. Nomatsigenga teachers and community leaders came to an agreement on a standard alphabet in 2010.

Chapter 2

Nomatsigenga Linguistic Profile

Nomatsigenga is a primarily head-marking, polysynthetic language, with a great deal of verbal morphology. It is typologically interesting for its especially large system of applicative morphology (Wise 1971) and the existence of a reality status system that morphologically marks every clause as realis or irrealis.

2.1 Phonological Sketch

2.1.1 Segmental phonology sketch

The Nomatsigenga consonants are shown in Table 2.1. The language's vowels are shown in Table 2.2. In this paper, I use the standard Nomatsigenga orthography for examples, with a few departures. Most Nomatsigenga phonemes are written using IPA-equivalent characters, with a few exceptions: /ʃ/ is written '*sh*;' /tʃ/ '*ch*;' /ɾ/ '*r*;' and /ɨi/ '*ë*,' as noted in the tables below. /ŋ/ is written '*ng*,' except before /k/, where the sequence /ŋk/ is written '*nk*.' Long vowels /i: e: a: o:/ are written as double vowels: '*ii, ee, aa, oo*.' I depart from this standard othography in several ways. First, in the first line of glossed examples, I use a capital 'T' and 'A' to indicate epenthetic /t/ and /a/. I also

use a capital 'N' to represent the phoneme /N/, a nasal that is unspecified for place of articulation, which occurs syllable-finally. In the standard Nomatsigenga orthography, the placeless nasal is represented as an *m* before bilabials and an *n* elsewhere. I follow this convention in the first line of all glosses, but indicate the placeless nasal in the second line of glosses as *N*. /t d ts n/ all have a dental articulation for some speakers.

Manner/Place	Bilabial	Dental	Alveopalatal	Velar	Glottal	Unspecified
Stop	p b	t		k g		
Fricative		s	ʃ (sh)		h (j)	
Affricate		ts	tʃ (ch)			
Nasal	m	n		ŋ (ng, n)		N (n, m)
Liquid			ɾ (r)			
Semivowel			j (y)			

Table 2.1: Nomatsigenga Consonants

	Front	Mid	Back
High	i, i: (ii)	ɨ (ë)	
Mid	e, e: (ee)		o, o: (oo)
Low		a, a: (aa)	

Table 2.2: Nomatsigenga Vowels

Nomatsigenga's phonemic inventory has several unusual characteristics. The stop series has an interesting gap in the dentals. Although there are both voiced and voiceless bilabial and velar stops, there is no voiced dental stop /d/.[1] The vowel series is similarly non-symmetrical. Although there are five

[1]Although the flap /ɾ/ may seem to be a /d/ underlyingly and fill this gap, it does not pattern phonologically with other voiced stop segments, suggesting it is best considered an /ɾ/ phonologically, as well as phonetically. First, the voiceless stops /p/ and /k/ become

vowels, the /u/ of the usual five-vowel inventory is instead /ɨi/. Further, unlike the vowels /i, e, a, o/, /ɨi/ does not have a companion long vowel.

The unspecified nasal /N/ is unusual and requires some explanation. I include a placeless nasal in the list of phonemes for several reasons. It is the only phoneme that can be a syllable coda and can only appear word-medially, before a stop consonant. It takes on the place features of the following consonant. In most Nomatsigenga words, a historical process has simplified clusters of /ŋk/ and /mp/ to /ŋ/ and /m/, respectively. This process created a phoneme /ŋ/ that doesn't occur in other Kampan languages (Michael 2011). Positing the phoneme /N/ may seem extraneous–it would seem that a simpler solution would be to suggest that an underlying nasal that takes on place features of a following stop consonant. However, the underspecified nasal simply disappears when no stop consonant follows, a phenomenon which cannot be predicted by assuming that it is underlyingly one of the other nasals, since all other nasals can be found (only) as syllable onsets. Therefore, there would be no way to explain the deletion of /N/ when not followed by an oral stop unless we posit that it is a distinct phoneme. For a more complete discussion of this phenomenon in other Kampan languages, see Michael (2008); Payne (1981).

An alternative analysis of /N/ would be to suggest that there is a

voiced to /b/ and /g/ at the beginning of a nominal root when preceded by a possession prefix. However, /t/-initial nominal roots do not undergo a similar process of voicing to /ɾ/, suggesting that the /ɾ/ phoneme should not be considered an underlying /d/. Further, the flap /ɾ plus the high front glide /j/ (/ɾj/) is an allowable complex onset. However, voiced stops plus the glide are not allowable onsets, which provides other evidence that the rhotic does not pattern with other voiced stops and is not underlyingly /d/.

series of prenasalized stops, /^{m}p, ^{n}d, ^{ŋ}k/, with /^{m}p/ usually surfacing as [m] and /^{ŋ}k/ usually surfacing as [ŋ]. This analysis is simpler in some ways, since it no longer requires the stipulation that /N/ only occurs syllable-finally, in turn simplifying the syllable structure. As a phonological counterargument, there is no way to predict where /^{m}p/ surfaces as /m/ and where /^{ŋ}k/ surfaces as [ŋ]. On a morphological level, this analysis requires that irrealis inflection operates via stem change, changing the first stop consonant of a verb root to its prenasalized version, which seems a less likely process than positing a simple concatenative process (see section 8). Further, this also requires the stipulation of an arbitrary division within the class of inalienable nouns. In non-possessed variants, inalienable nouns take an Unpossessed suffix, as shown in example (2.1).[23]

[2]I use a four-line gloss, following recent Kampan literature. The first line presents a phonemic representation of the utterance. I use a version of the standard Nomatsigenga orthography in order to indicate placeless nasals ('N') (see 2.1.1) and epenthetic segments. 'A' and 'T' indicate an epenthetic vowel /a/ and an epenthetic consonant /t/, respectively. The second line shows the morphological breakdown of the word–each morpheme is given in a basic form–e.g. the third-person masculine form is always shown as *i*=, although it surfaces as either *i*= or *j*=. The third line provides a gloss, and the fourth gives a free translation.

[3]I use the following glossing conventions in Nomatsigenga examples: 1, first person singular/plural exclusive; 2, second person; 3m, third person masculine; 3nm, third person non-masculine; S, subject; O, object; P, possessor; ABL, Ablative ALL, Allative; ANIM, Animate; APPL.BEN, Benefactive applicative; APPL.INDR, Indirective applicative; APPL.PRES, Presential applicative, APPL.PURP, Purposive applicative, A.NMLZ, action nominalizer; BEN.OBJ, Benefactive object; CAUS.SOC, Sociative causative; DEM.DIST, Distal demonstrative; DEM.PROX, Proximate demonstrative; DISTR, Distributive; EXTR, Extremal; HAB, Habitual; HORT, Hortative; INAN, inanimate; INT.PRO, interrogative pronoun; IPFV, Imperfective; IRREAL, Irrealis (prefix); IRREAL.I, Irrealis, class I (suffix); IRREAL.A, Irrealis, class A (suffix); LOC, Locative; NEG, Negative; PFV, Perfective aspect; PL, Plural; POSS, Possessed; PROG, Progressive; REAL, Realis; RCPV, Receptive; REGR, Regressive; SUB, subordinator; UNPOSS, Unpossessed.

(2.1) kitotsi

kito *-tsi*
head -UNPOSS
'a head'

On the other hand, there are some roots which end in /Ntsi/ when they are possessed, as can be seen by comparing the surface forms in (2.2a) with that in (2.2b).

(2.2) a. nobairo

na- *bairoN*
1SP- name
'my name'

b. bairontsi

bairoN *-tsi*
name -UNPOSS
'a name'

With an analysis of the phoneme /N/, this has a fairly simple explanation: the roots with unpossessed variants ending in /Ntsi/ end with the phoneme /N/, which only surfaces when followed by a stop consonant, in line with other phonotactic restrictions in the language. On the other hand, an analysis that includes prenasalized stops requires the division of two classes of inalienable nouns; the first of which takes the *-tsi* allomorph of the unpossessed suffix, and the second of which takes the *-^{n}tsi* allomorph.

There are five simple vowels: /i, e, a, o/ and the phonetic diphthong /ɨi/ (‘ë’). /i/, /e/, /a/, and /o/ have long counterparts: /i:/, /e:/, /a:/, and /o:/, as seen in the following examples:

(2.3) **a.** *pititsi* ‘plumage, feathers’

b. *piiri* ‘your father’

(2.4) **a.** *eroma* ‘type of edible worm’

b. *eéroti* ‘parrot with yellow chest’

(2.5) **a.** *kátari* ‘aquatic bird’

b. *kataári* ‘white’

(2.6) **a.** *+óg* ‘drink’

b. *+oóg* ‘kill’[4]

Although the vowel /ɨi/ is phonetically diphthongal, it does not act like a diphthong phonologically. Other diphthongs (/ai/, /oi/, and /ei/) attract stress, as can be seen in example (2.7-2.8), where the syllables with dipthongs get stress, regardless of position in the word, while syllables with /ɨi/ do not attract stress away from normal stress assignment in disyllabic iambic feet, as shown in examples (2.9-2.10).

(2.7) notsoigani [no.ˈtsoi.ˌga.ni]

[4]I use a + symbol to indicate bound roots–all verbs, adjectives, and some nouns.

na= *tsoig* *-a* *=ni*
1sS= lie -REAL.A =IPFV.ANIM
'I'm lying.'

(2.8) aisáti [ˌai.ˈsá.ti] 'all'

(2.9) ikampëna [i.ˌkam.pë.ˈna]

i= *kaN* *-ap* *-i* *=na*
3mS= say -ALL -REAL.I =1sO
'They said to me'

(2.10) yamëka [ˈya.më.ka] 'now'

2.1.2 Phonotactics

Nomatsigenga syllable structure is quite simple. Any consonant but /N/ can form a syllable onset. The only allowable complex onsets consist of a stop, fricative, affricate, or /n/ plus the semivowel /j/('y'), and only before /a/, as in examples (2.11-2.15). I analyze such sequences as complex onsets, rather than as a complex vowel /ja/ since only specific consonants can precede this sequence, whereas any consonant can precede other vowels. I also analyze them as a complex onset, rather than as a series of phonemic palatalized consonants /kj/, /pj/, etc., since they can only precede the vowel /a/. Other consonants do not have this restriction. By positing that these sequences are complex onsets, their limited distribution seems to follow more naturally than positing either palatalized consonants or complex vowels.

(2.11) *tyapa* ‘chicken’

(2.12) *pyari* ’masato [manioc beer]’

(2.13) *syatatsi* ’claw, fingernail’

(2.14) *tsyairi* ’paucar sp.’

(2.15) *kanyari* ‘green’

In addition to the phonetic diphthong /ɨi/, the dipthongs /ai/, /ei/, and /oi/, which are both phonetically and phonemically dipthongal, are attested. These dipthongs attract stress, unlike /ɨi/, as shown above in §2.1.1. Only the underspecified nasal, /N/, can be a syllable coda and its distribution is further constrained in that it is only found word-medially and only precedes stop consonants.

The vowels /e/ and /ɨi/ do not occur root-initially. /e/ and /ɨi/ do both occur *in* roots, as in *+kem* ‘to listen’ (2.16) and *+sëba* ‘to whistle’ (2.17). However, neither of these phonemes are found in root-initial position in verbs, either in my corpus or Shaver (1996).

(2.16) nakemiri

na=	*kem*	*-i*	*-ri*
1SS=	listen	-REAL.I	-3MO

‘I listened to him.’

pi= *sëba* *-i*
2S= whistle -REAL.I
=ni
=IPFV.ANIM
‘You are whistling.’

(2.17) pisëbaTini

2.1.3 Suprasegmental sketch

Nomatsigenga has a contrast between high tone and no tone, as shown in the minimal pair in (2.18-2.19), where the only difference in the two words is the tone on the vowel root. High tone is marked with an acute accent above the vowel in the syllable with which tone is associated.[5]

(2.18) nomeTimaro

na=	*N-*	*ome*	*-ima*	*-ro*
1sS=	IRREAL-	be.accustomed	-IRREAL.A	-3nmO

'I'm not accustomed to it.'

(2.19) noméTimaro

na=	*N-*	*omé*	*-ima*	*-ro*
1sS=	IRREAL-	be.stingy	-IRREAL.A	-3nmO

'I'm not being stingy with it.'

A spectrogram of the utterance in (2.18) can be seen in Figure 2.1. Note the (relatively) flat pitch, as depicted by the blue line, on the second syllable. On the other hand, Figure 2.2 shows a spectrogram of the utterance in example (2.19). Note that the tone on the second syllable is higher than the other syllables in the utterance.

[5]Minimal pairs in Nomatsigenga are rare. What follows in (2.18) is the only true minimal pair found to date to demonstrate tone. Some near-minimal pairs can be seen in examples (2.20-2.23).

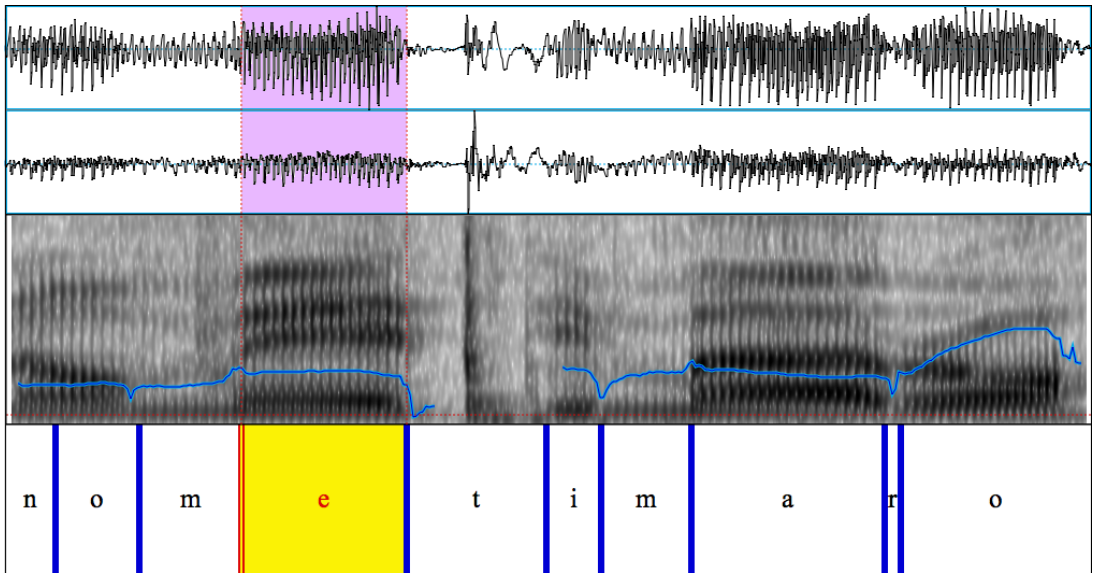


Figure 2.1: Spectrogram of utterance *nometimaro*, example (2.18)

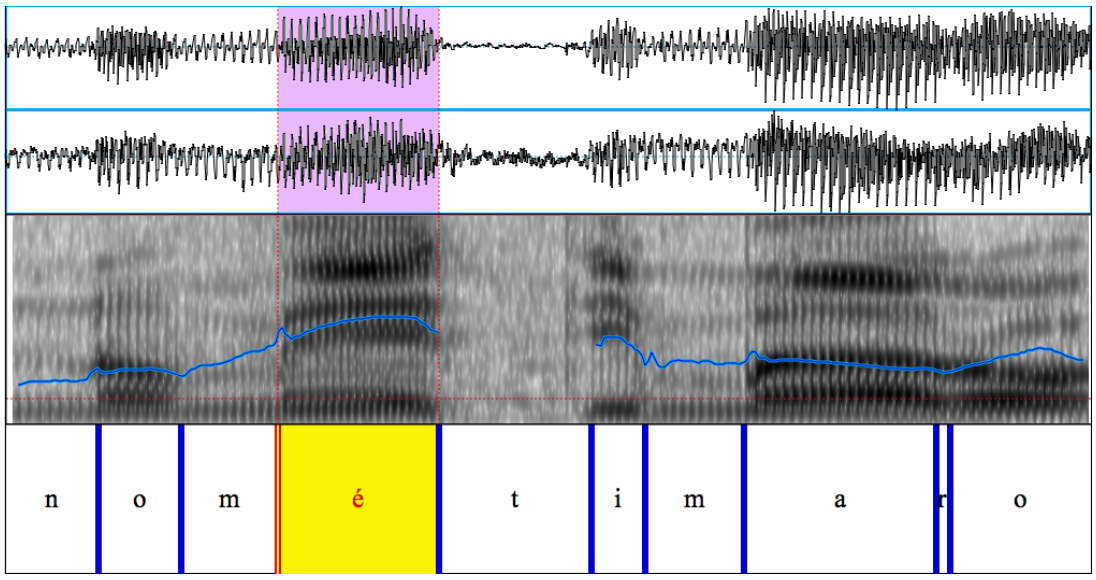


Figure 2.2: Spectrogram of utterance *nométimaro*, example (2.19)

The placement of tone on the word is not predictable and is assigned to each syllable individually. For example, in disyllabic words, tone can be assigned to the first syllable (2.20), the second syllable (2.21), both syllables (2.22), or none (2.23).

(2.20) **a.** *áro* 'large, black bird'

b. *chógo* 'species of large bird'

(2.21) **a.** *mopë́* 'rock'

b. *nijá* 'water'

c. *chomó* 'type of clay jar'

(2.22) **a.** *símá* 'fish'

b. *sítsá* 'earthworm'

(2.23) **a.** *choko* 'type of cane'

In the case of a sequence of vowels (long vowels or diphthongs), tone may be assigned to either the first or second vowel in the sequence, as can be seen by comparing the plural suffix *-aíg* with the first-person plural inclusive marker *=ái*. This distinction suggests that the tone bearing unit is the mora, not the syllable.

Barring any special stress-attracting syllables, stress is assigned in disyllabic iambic feet, with main word stress on the final foot. Stress is attracted to closed syllables and those that are assigned high tone. Some clitics, such

as the first- and second-person object markers, *=na* and *=mi*, carry inherent stress.

2.2 Morphophonemics

Word-formation in Nomatsigenga is subject to a number of morphophonological rules. Nearly every morpheme has multiple allomorphs, the choice of which is governed by the phonological context. I defer discussion of morpheme-specific morphophonology until the discussion of the relevant morpheme. However, there are several morphophonemic processes that apply more generally, including post-root epenthesis and /h/-deletion. In the first line of the glosses, I remain as faithful as possible to the output form. In the second line of glosses, I show an underlying morphophonological form of the utterance, which means showing a basic form for all morphemes. This basic form includes /h/ segments deleted at the surface and does not include epenthetic segments.

Nomatsigenga has a relatively simple syllable structure, in which sequences of vowels are disallowed, and only the placeless nasal /N/ can be a syllable coda. The only allowable complex onsets are /tj/, /kj/, /pj/, /nj/, and /sj/. However, the concatenation of morphology causes a number of consonant or vowel sequences. Following the verb root, these illegal sequences are solved by epenthesis. Vowel hiatus is resolved by the epenthesis of the consonant /t/, while illegal consonant sequences are solved by epenthesis of the vowel /a/. Epenthetic consonants are indicated in the first line of all glosses with a capital 'T,' epenthetic vowels are indicated with an uppercase 'A.' The

insertion of these segments can be seen in examples (2.24-2.26).

(2.24) NakenAbagiTanta.

na= *ken* *-bagi* *-aNt* *-a*
1sS= travel -CL:VARIOUS -APPL.INST -REAL.A
'I traveled along it a few times.' (CCpuentedeoro, 278.38s)

(2.25) Aroge isingiTasantaígaka.

aroge *i=* *singi* *-asaNt* *-aíg* *-k* *-a*
already 3mS= drunk -EXTR -PL -PFV -REAL.A
'They were already very drunk.' (MSSDerrumbe, 29.96s)

(2.26) IáTini.

i= *ijá* *-i* *=ni*
3mS= go -REAL.I =IPFV.ANIM
'He's going.'

A morpheme-final phoneme /N/ (place-unspecified nasal) also requires the use of an epenthetic /t/, as shown in example (2.27).

(2.27) ikanTiri

i= *kaN* *-i* *-ri*
3mS= say -REAL.I -3mO
'He said to him'

Nomatsigenga also has a rule by which a consonant /h/ ('j') may delete, resulting in a high tone on a stressed vowel either following or preceding the /h/.[6] Nanti has a similar rule, although the phonetic correlate of the deleted /h/ is nasalization on a preceding vowel (Michael 2008). The consonants on either side of the deleted /h/ remain syllabified in separate consonants, as shown in example (2.28-2.29).

(2.28) Iáke. [i.ˈá.ke]

i=	*ijá*	*-k*	*-i*
3mS=	go	-PFV	-REAL.I

'He went.'

(2.29) Iníapëro abatsi. [i.ˈní.a.pë.ro ˈa.ba.tsi]

i=	*nih*	*-ap*	*-i*	*-ro*	*aba*	*-tsi*
3mS=	see	-ALL	-REAL.I	-3nmO	path	-UNPOSS

'They encountered the path.' (CCPuentedeoro, 106.25s)

A spectrogram of the utterance, showing high pitch on the vowel before the deleted /h/, (2.29) can be seen in Figure 2.3. Note that this root must have a stem-final /h/, otherwise an epenthetic /t/ would be required between the stem-final vowel and the suffix-initial vowel.

Nomatsigenga also has a class of stem-changing verbs. These verbs have a root-final velar stop following a front vowel. When a suffix with a /k/

[6] While this is a major source of tone, there are morphemes that have lexically-assigned tone.

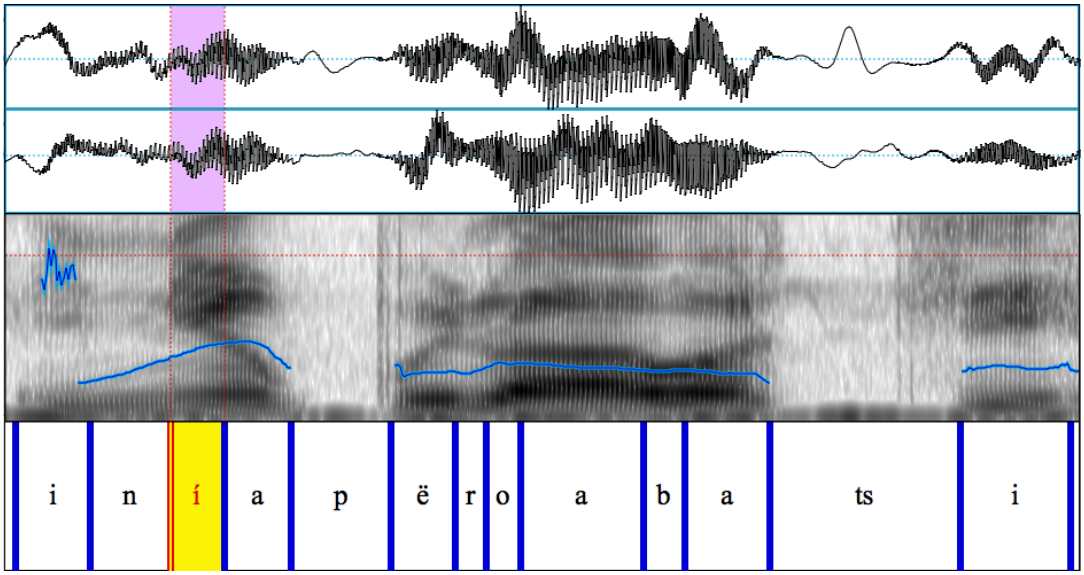


Figure 2.3: Spectrogram of utterance *Iníapëro abatsi*, example (2.29)

immediately follows the root, the root-final stop is weakened to /h/, which then deletes, according to the rule discussed above. These verbs are discussed in more detail in section 2.2.5.

With respect to the ordering of these three rules, epenthetic segments must be assigned first, since /h/-deletion creates sequences of vowels that do not trigger any epenthetic segments. The weakening of the final velar stop in stem-changing verbs to /h/ must also precede /h/-deletion, since it feeds this rule. This process can be seen in example (2.30), where the final velar stop of the root *+isig* is weakened to /h/, which is then deleted. Although this creates a post-root sequence of two vowels between the root and the perfective suffix *-ak*, no epenthetic /t/ is used in this spot. I demonstrate the order in

Rule	/∅=isig-k-a/ (2.30)	/∅=ijá-k-e/ (2.28)	/∅=ijá-i=ni/ (2.26)
Epenthesis	∅=isig-A-k-a	–	∅=ijá-T-i=ni
Stem-change	∅=isih-ak-a	–	–
/h/-deletion	∅=isí-ak-a	∅=iá-k-e	∅=iá-T-i=ni

Table 2.3: Rule-ordering of common morphophonemic processes

which these rules must apply in Table 2.3. No morpheme-specific allomorphic rules interact with these rules: I assume that allomorphs chosen on the basis of phonological context are assigned first, and that these more general processes apply last.

(2.30) Isíaka. [i.ˈsí.a.ka]

i=	*isig*	*-k*	*-a*
3mS=	run	-PFV	=REAL.A

'He ran.'

2.2.1 Verbs as a class

Nomatsigenga verbs are easily distinguished from other word classes in the language. They are the only required element of a clause, and, in main clauses, are minimally inflected with a bound pronoun and for reality status, as in the elicited example in (2.31).

(2.31) nongoTi

n= *ongo* *-i*
1S= cook -REAL.I
'I cook.'

Although examples such as (2.31), with minimal morphology, are produced and accepted in elicitation, they almost never occur in natural speech. Most examples also have at least other inflectional morphology–mostly directionals (2.32) or aspect markers (2.33). Reality status, aspect, and directional markers do not occur on other word classes, serving as distinguishing features of verbs.

(2.32) yareepa

i= *aree* *-ap* *-a*
3mS= arrive -ALL -REAL.A
'He arrived.'

(2.33) yareeka

i= *aree* *-ak* *-a*
3mS= arrive -PFV -REAL.A
'He arrived.'

Verbs can also be identified by their ability to take the action nominalizing suffix *-agaN*, as shown in example (2.34). These nominalized forms are the forms given in elicitation as "generic" or "infinitive" forms.

(2.34) **a.** obitagantsi

obit *-agaN* *-tsi*
harvest -A.NMLZ -UNPOSS
'harvesting'

b. kamagantsi

kam *-agaN* *-tsi*
die -A.NMLZ -UNPOSS
'dying'

2.2.2 Verbs vs. Nouns

Subject marking on verbs and possessive marking on nouns are homophonous in most cases, as can be seen in Table 2.4, with the exception of the prevocalic allomorphs of the third-person masculine markers. For verbal subjects, the marker surfaces as *y*=, for nominal possessors, the marker surfaces as *ir*-.

Environment	Subject-marking allomorph	Possessor-marking allomorph
First-person singular/plural exclusive		
_V	n=	n-
_[+labial]	no=	no-
_Co	no=	no-
elsewhere	na=	na-
Second-person		
_V	p=	p-
_[+labial]	po=	po-
elsewhere	pi=	pi-
Third-person non-masculine		
_V	p=	p-
elsewhere	o=	o-
Third-person masculine		
_V	**y=**	**ir-**
elsewhere	i=	i-
First-person plural inclusive		
_[+labial]	o=	o-
_V[-high]	∅=	∅-
elsewhere	a=	a-

Table 2.4: Comparison of verbal subject marking and nominal possessive-marking allomorphy

Transitive and ditransitive verbs also take object marking, as shown in examples (2.35) and (2.36). Nouns do not take this morphology.

(2.35) nagisiro

na=	*gis*	*-i*	*-ri*
1sS=	hit	-REAL.I	-3mO

'I hit him.'

i=	*p*	*-i*	*=mi*
3mS=	give	-REAL.I	=2O
-ro			
-3nmO			

'He gave it to you.'

(2.36) ipëmiro

Some nouns, especially kin terms, have word-final sequences /ri/ and /ro/, which are homophonous with the third person object markers *-ri* (masculine) and *-ro* (non-masculine), as seen in (2.37). These markers appear to be remnants of a noun class system and are not productive. Furthermore, nouns do not carry any suffixes or enclitics analogous to the object markers for first-person singular/plural exclusive (*=na*), second-person (*=mi*), or first-person plural inclusive (*=ái*).[7]

(2.37) *antiasiporo* 'old woman' (c.f. *-ro*, 3nmO)

antiasipori 'old man' (c.f. *-ri*, 3mO)

Nouns fall into two classes–alienable and inalienable, both of which carry morphology not found on verbs–these criteria also differentiate nouns

[7]Note the close phonological similarities between first-person singular/plural exclusive subject proclitic *na=*, possessor prefix *na-*, and object enclitic *=na*. While these are phonologically similar, nouns do not carry any suffixes or enclitics that are similar to the verbal enclitic *=na*.

and verbs. Alienable nouns are easily distinguished from verbs due to their morphology when possessed. Alienable nouns take an additional Possessed suffix *-re*, *-te*, or *-ne* when they appear with a prefix marking agreement with a possessor. Examples of these Possessed morphemes are shown in (2.38).

(2.38) **a.** nobaatone

na- *paato* *-ne*
1sP- duck -POSS
'my duck'

b. nochitite

na- *ochiti* *-te*
1sP- dog -POSS
'my dog'

c. nosongare

na- *songa* *-re*
1sP- flute -POSS
'my flute'

On the other hand, inalienable nouns can be distinguished from verbs by their morphology when *not* possessed. Inalienable nouns must carry the Unpossessed morpheme *-tsi*, when not possessed by another noun in the noun phrase, as shown in example (2.39).

(2.39) **a.** pongotsi

pongo *-tsi*
house -UNPOSS

‘a house’ *bairoN* *-tsi*
name UNPOSS

b. bairoNtsi ‘a name’

Verbs do not take the Possessed suffixes *-re*, *-ne*, or *-te*, nor do they take the Unpossessed suffix *-tsi*. Further, nouns do not take reality status or any other inflectional verb marking, despite homophony in most subject and possessor cross-referencing.

2.2.3 Verbs vs. Adjectives

A class of adjectives can also be differentiated from verbs. In Nomatsigenga, there is an adjectival construction. These adjectives show agreement with the head noun using markers homophonous with third-person verbal object markers, as shown in examples (2.40) and (2.41). Nomatsigenga lacks a copula, so the forms below can be either a noun phrase or a clause.

(2.40) **a.** pashiniro piari

pashini *-ro* *piari*
tasty -3nmO masato
‘tasty masato’, ‘The masato is tasty.’

b. pashiniri chaancho

pashini *-ri* *chaancho*
tasty -3mO pork
‘tasty pork’, ‘The pork is tasty.’

(2.41) **a.** katsimaro tsínane

katsima *-ro* *tsínane*
bad -3nmO woman
'bad woman', 'The woman is bad.'

b. katsimari sërari

katsima *-ri* *sërari*
bad -3mO man
'bad man', 'The man is bad.'

The boundary between verbs and adjectives is fuzzy. Many roots can be used with either adjectival or with verbal inflection, as shown in examples (2.42) and (2.43), where the (a) examples are adjectival and the (b) examples are verbal, although similar roots are used in both circumstances. It is particularly common in elicitation to use adjectival inflection to express positive polarity and a verbal construction for negative polarity, although it is not clear whether the same is true for natural discourse. Note that, in these examples, the adjectival forms do not have any reality status inflection, although the verbs all encode reality status.

(2.42) **a.** katsëbaro kootsiro

katsëba *-ro* *kootsiro*
sharp -3nmO knife
'sharp knife', 'The knife is sharp.'

b. teni ongatsëbaTe kootsiro

teni *o=* *N-* *katsëba* *-e* *kootsiro*
no 3nmS= IRREAL- sharp -IRREAL.I knife
'the not-sharp knife', 'The knife isn't sharp.'

(2.43) **a.** tyapa patyari

tyapa *patya* *-ri*
chicken salty -3mO
'salty chicken,' 'The chicken is salty.'

b. teni omotyaTe

teni *o=* *N-* *potya* *-e*
not 3nmO= IRREAL- salty -IRREAL.I
'not salty,' 'It's not salty.'

Although the data shown above may seem to suggest that "adjectives" are actually a subclass of verbs and Nomatsigenga uses a split-S or fluid-S alignment system, there are reasons to posit distinct verbal and adjectival constructions, despite the homophony in agreement marking. Most notably, adjectives do not carry reality status marking, which are otherwise required on all verbs. Adjectives also do not take first or second person markers. When an adjective is used with a first or second person referent, the adjective agrees with the *gender* of the referent, not the *person*, as shown in (2.44) [first person] and (2.45) [second person].

(2.44) Naro ánero

naro *áne* *-ro*
1s.PRO fat -3nmO
'I (a woman) am fat.'

(2.45) Obiro matsaari.

obiro *matsaa* *-ri*
2.PRO thin -3mO
'You (a man) are thin.'

Many roots that appear in adjectival constructions can also be used in a verbal construction. These verbal constructions differ from adjectival constructions in that they take subject-marking proclitics (not object marking) and reality status marking. In this construction, first and second person referents require agreement with person, rather than gender, as shown in example (2.46). This root can also be used in an adjectival construction—see the example in (2.47) with a third-person referent.

(2.46) nashënkogani

na=	*shëNkog*	*-a*	*=ni*
1S=	crazy	-REAL.A	=IPFV.ANIM

'I'm crazy.'

(2.47) shonëkoro tsínane

shonëko	*-ro*	*tsínane*
crazy	-3nmO	woman

'crazy woman'

Furthermore, verbs can take the full range of verbal morphology, although only reality status is required. Adjectives do not make use of verbal morphology, with the exception of agreement markers, which are homophonous with object markers.

Although the class of adjectival roots may largely or entirely overlap with homophonous verb roots, it does seem to be the case that there are

distinct adjectival constructions that share very few characteristics with verbal constructions. Given the homophony of adjectival agreement with object agreement, it seems likely that the adjectival constructions grew out of a split- or fluid-S alignment system. This story is strengthened by traces of split-S in Asháninka (Payne & Payne 2005).[8] However, Nomatsigenga seems best described synchronically as a language with a nominative-accusative alignment system (see §9.2 for a discussion of alignment) and a separate adjectival construction, with the homophonous adjectival agreement and verbal object markers.

2.2.4 Types of verbs

Nomatsigenga has two verb classes, here referred to as 'Class I' and 'Class A.' These classes are distinguished only on the basis of reality status marking, using the four affixes presented in Table 2.5. A list of class I verbs

	Class I	Class A
Realis	-i	-a
Irrealis	-e	-ima

Table 2.5: Reality status markers, showing differentiation of Nomatsigenga verb classes

is given in (2.48), a list of class A verbs can be found in (2.49). In these lists, stem-changing verbs are bold-faced. The discussion of stem-changing verbs

[8]Tom Durand is currently carrying out an investigation of fluid-S alignment in Kampan languages. However, my corpus shows no examples of fluid-S alignment, suggesting that if fluid-S strategies are still possible in Nomatsigenga, they are very rare.

will follow in §2.2.5. While the number of class I verbs outnumber class A verbs, class A verbs tend to be high frequency items. Further, although the number of class A verbs is smaller than the number of class I verbs, it is still a large class, as can be seen in the lists below. Class A verbs also seem to be a closed class, since all Spanish loanwords, which are indicated with (Sp.), are class I verbs.

(2.48) Class I verbs

- *+aagë* 'grab'
- *+abaté* 'go forward'
- *+agaN* 'marry'
- *+agëtab* 'appear'
- *+agobah* 'accept (a proposal)'
- *+akiraN* 'be open-mouthed'
- *+amama* 'float'
- *+anë* 'walk'
- ***+anirik*** 'weave a shawl/cushma'
- *+am* 'bring'
- *+ap* 'eat'
- *+ar* 'fly'
- *+asi* 'to close up'
- *+baira* 'dance' (Sp.)
- ***+chig*** 'bite'
- *+gá* 'send'
- *+giá* 'follow'
- *+gis* 'hit'
- *+gó* 'know, learn'
- ***+ikibig*** 'grow'
- *+ijá* 'go'
- *+ipok* 'come, arrive'
- *+ira* 'menstruate'
- *+irená* 'throw'
- *+isam* 'sleep'

- *+itaraN* ‘collapse’
- *+itsoN* ‘finish’
- *+iin* ‘be (at)’
- *+jó* ‘throw out’
- *+kaig* ‘accept (a person)’
- *+kaim* ‘shout’
- *+kam* ‘die’
- *+kaN* ‘say, talk’
- *+kaNta* ‘sing’
- *+kem* ‘listen’
- *+keng* ‘think’
- *+këtagé* ‘dawn’
- ***+kig*** ‘dig’
- *+kog* ‘want’
- *+komant* ‘tell, advise’
- *+konté* ‘appear’
- *+kot* ‘take sthg. home’
- *+maninke* ‘sing’
- *+mitokó* ‘support’
- *+nets* ‘look’
- *+nibá* ‘talk with’
- *+nih* ‘see, visit’
- *+niN* ‘love’
- *+ngo* ‘cook’
- *+ogig* ‘boil’[9]
- *+oóg* ‘kill’
- *+omanigih* ‘see, visit’
- *+omaki* ‘bring’
- *+oté* ‘fill’
- *+osami* ‘ask, question’
- *+p* ‘give’
- ***+parig*** ‘fall’
- *+sangina* ‘study’
- *+sëba* ‘whistle’
- *+siba* ‘hide’
- *+shapi* ‘be full’

[9]Possibly stem-changing, data missing.

- ***+sitig*** 'tie'
- ***+sobig*** 'sit'
- *+sonka* 'play a panflute'
- *+tarobagá* 'work' (Sp.)
- *+tem* 'go forward a little'
- *+tim* 'live (someplace)'
- *+tomoki* 'free sthg.'

(2.49) Class A verbs

- *+apato* 'have a meeting'
- *+aree* 'arrive'
- *+jiit* 'be called'
- *+ka* 'wake up'
- *+kan* 'group (oneselves) together'
- ***+ipig*** 'return'
- ***+isig*** 'run'
- *+itsom* 'be born'
- *+mak* 'realize'
- *+mamoi* 'to cover'
- *+maNchakí* 'dress (onself)'
- *+naN* 'exist'
- *+óg* 'drink'
- *+omanona* 'make a hut'
- *+omé* 'be stingy with'
- *+ome* 'be accustomed to'
- *+oté* 'ride in/on'
- *+panya* 'start, be from'
- ***+peg*** 'get lost, disappear'
- *+shoN* 'turn around'
- *+singi* 'drink, get drunk'
- *+tsiba* 'be accompanied by'

Historically, in the Kampan literature, the two verb classes have been termed "irreflexive" (Class I) and "reflexive" (Class A), on the basis of the

terminology used for Spanish verbs. I reject this terminology for several reasons. First, the relevant category is not so much "reflexive" as "middle voice", with many self-directed actions using class A morphology, such as with movement verbs in (2.50) and verbs of grooming, as in (2.51). In addition to the grammatical facts below that suggest that terming the verb classes "reflexive" and "irreflexive" is not entirely correct, I also use the terms "Class A" and "Class I" to make clear the parallels with the verb classes in other Kampan languages Michael (2008) and Mihas (2010) both use the same terminology, which is based on the realis morphology used for the verb classes—Class I verbs take the realis marker *-i* and Class A verbs take the realis marker *-a*.

(2.50) isigani

i=	*isig*	**-a**	*=ni*
3mS=	run	-REAL.A	=IPFV.ANIM

'He's running.'

(2.51) pomaNchakiTani

pi=	*manchaki*	**-a**	*=ni*
2S=	dress	-REAL.A	=IPFV.ANIM

'You're dressing.'

There are some roots which take either the class I marker or the class A marker, depending on whether the root is used as a causative (transitive) or inchoative (intransitive), as in example (2.52a) (causative) and (2.52b) (inchoative).

(2.52) **a.** nitagirini

na= *itag* **-i** *-ri* *=ni*
1sS= burn -REAL.I -3mS =IPFV.ANIM
'I'm burning him.'

b. nitagani

na= *itag* **-a** *=ni*
1sS= burn -REAL.A =IPFV.ANIM
'I'm burning.'

The use of a reciprocal suffix or relexive pronoun triggers a switch to class A (traditionally called "reflexive"), as shown in (2.53) and (2.54), where the verbs take class A morphology in these constructions although the root *+gis* normally requires class I morphology.

(2.53) Pingisëma obiáti!

pi= *N-* *gis* *-ima* *obiáti*
2S= IRREAL- hit -IRREAL.A 2.REFL.PRO
'Hit yourself!'

(2.54) igisabakagajá

i= *gis* *-abakag* *-aj* *-a*
3mS= hit -RCPV -REG -REAL.A
'They're hitting one another.'

These tendencies do suggest that the two verb classes carry some semantic load in Nomatsigenga and can be described as a distinction between

active and middle voice. However, the classes do not seem to be synchronically predictable. Within the class of eating and drinking verbs, the root *+og*, 'to drink,' requires a class A reality status marker (2.55), while the root *+ap* 'to eat,' requires a class I marker (2.56).

(2.55) **a.** nógani

na= *óg* **-a** *=ni*
1sS= drink -REAL.A =IPFV.ANIM
'I am drinking."

b. nógëmani

na= *N-* *óg* **-ima** *=ni*
1sS= IRREAL- drink -IRREAL.A =IPFV.ANIM
'I'm going to drink.'

(2.56) **a.** napini

na= *ap* **-i** *=ni*
1sS= eat -REAL.I =IPFV.ANIM
'I am eating.'

b. nopëni

na= *N-* *ap* **-e** *=ni*
1sS= IRREAL- eat -IRREAL.I =IPFV.ANIM
'I'm going to eat.'

Similarly, the root *+singi*, 'to drink alcohol, get drunk,' takes class A marking, while the root *+aág*, 'to eat meat' takes class I marking. Within the class of motion verbs, the root *+isig* takes class A marking, while the root

+anë 'to walk' takes class I marking. While verb class membership can be generally unpredictable, the Nomatsigenga examples seem more unpredictable than most, with just as many exceptions to the rule as those that belong to the expected verb class. Therefore, I suggest that the Nomatsigenga verb classes are a bleached version of an earlier system, but not to the extent that class membership is completely arbitrary.

2.2.5 Stem-changing verbs

Nomatsigenga also has a fairly large class of stem-changing verbs. This class is made up of verb roots that have a sequence of a nucleus /i,e/ and a coda /k,g/ in the final syllable of the root.[10] The velar stop is deleted when the morpheme immediately following the root begins with /k,g/, although an epenthetic vowel between the stem-final consonant and the /k/-initial morpheme remains. Examples can be seen in example (2.57), with the root *+isig*, 'run' in which the (a) example does not carry a /k/-intial suffix, and the normal root appears. In (b), the word also carries the perfective morpheme *-k*, and the modified root appears. Verbs from both class A and class I can be stem-changing, as seen in the examples below, where example (2.57) uses a class A verb, while (2.58) uses a class I verb.

(2.57) **a.** isigani

[10]There are verb roots that end in /k/ or /g/ that are not stem-changing, but these also are not preceded by a front vowel. All verbs that end in a sequence of a front vowel and a velar stop are stem-changing, meaning that this class is phonologically, not lexically, defined.

i= *isig* *-a* *=ni*
3mS= run -REAL.A =IPFV.ANIM
'He's running.'

b. isíAkani

i= *isig* *-k* *-a* *=ni*
3mS= run -PFV -REAL.A =IPFV.ANIM
'He ran.'

(2.58) **a.** nakigini kaniri

na= *kig* *-i* *=ni* *kaniri*
1S= dig -REAL.I =IPFV.ANIM manioc
'I'm digging manioc.'

b. nakíAke kaniri

na= *kig* *-k* *-i* *kaniri*
1sS= dig -PFV -REAL.I manioc
'I dug up manioc.'

Most of the verb roots in this class have the vowel /i/ as the final syllable nucleus. There are a few verb roots with a vowel /e/ in the final syllable, as shown in examples (2.59), with the root *+peg* 'disappear' and example (2.60) with the root *+baség*, 'to hit oneself.' Although the vowel quality in the root is /e/, it nevertheless changes to /i/ in the stem-changed (b) examples.

(2.59) **a.** ipegaNtAgéTi

i= *peg* *-aNt* *-gé* *-i*
3mS= disappear -HAB -DISTR -REAL.I
'They would disappear.'

b. ipíake

i= *peg* *-k* *-i*
3mS= disappear -PFV -REAL.I
'He disappeared.'

(2.60) **a.** ibaségani

i= *baség* *-a* *=ni*
3mS= hit -REAL.A =IMP.A
'He's hitting himself.'

b. ibasíAka

i= *baség* *-k* *-a*
3mS= hit -PFV -REAL.A
'He hit himself.'

I suggest that the velar stop (either /g/ or /k/) dissociates from a velar stop in the following syllable by a process of lenition to /h/, which then deletes based on an independent phonological process, triggering high tone on the preceding vowel. High tone on the root vowel /i/ can be seen in Figure 2.2.5 (example 2.61) and Figure 2.2.5 (example 2.62), where the blue line represents F0.

(2.61) IchíAkena.

i= *chig* *-k* *-i* *=na*
3mS= bite =PFV -REAL.I =1sO
'He bit me.'

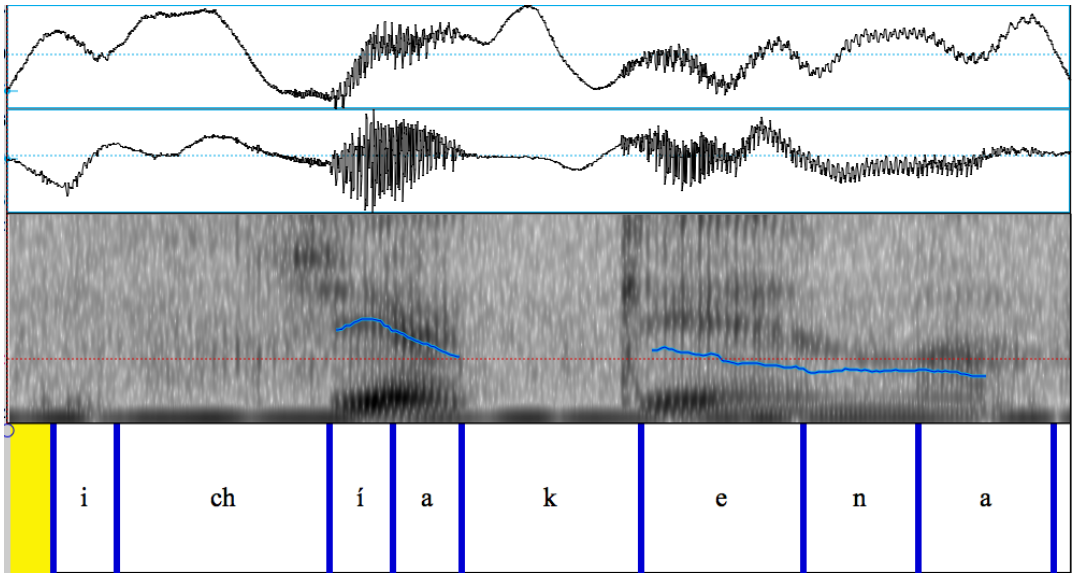


Figure 2.4: Spectrogram of utterance *Ichíakena.*

(2.62) IsíAka parkekë.

i=	*sig*	*-k*	*-a*	*parke*	*-kë*
3mS=	run	-PFV	-REAL.A	park	-LOC

'He ran to the park.'

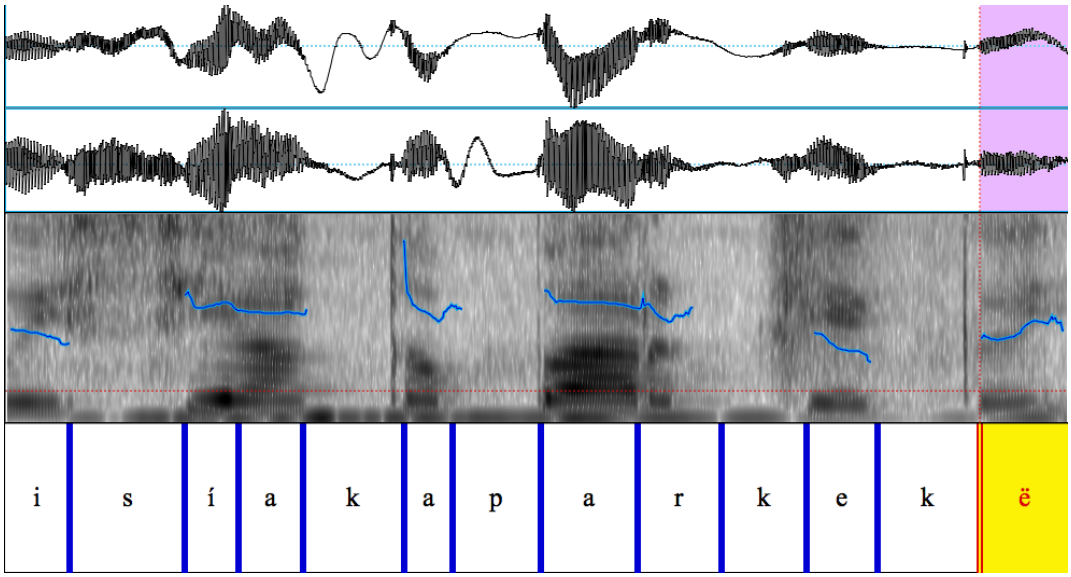


Figure 2.5: Spectrogram of utterance *Isíaka parkekë.*

Chapter 3

Overview of Inflectional Morphology

The chart in (3.1) shows the relative locations of inflectional verb morphology.

Subj.	Irrealis	Stem	Direction	Number	Core Aspect	Translocative	Reality Status	Obj.	Imperfective
na=	N-		-ap	-aíg	-k	-iN	-i	=na	=ni
pi=	∅		-an	-gé	-ats		-e	=mi	=ti
o=			-ob		-aj		-a	-ro	
i=					-aNt		-ima	-ri	
a=								-ái	
								-ne	

Table 3.1: Nomatsigenga Verb Morphology Template

In Table 3.2 below, the inflectional characteristics of each 'slot' in the morphological template are shown.

	Subj.	Irrealis	Direction	Number	Core Aspect	Transloc.	Reality Status	Obj.	Imperf.
Required/zero morph.	yes	yes	yes	no	yes	yes	yes	yes	yes
Lexical generality	yes	yes	yes	yes	yes	yes	yes	yes	yes
Changes word class	no	no	no	no	no	no	no	no	no
Indicates relationship	yes	no	no	yes	no	no	no	yes	no
Paradigm gap	no	no	no	no	no	no	no	no	no
Internal combination	no	no	no	no	no	no	no	no	no
Smaller system	yes	yes	yes	yes	yes	yes	yes	yes	yes
Higher frequency	yes	yes	yes	yes	yes	yes	yes	yes	yes
Lighter	yes	yes	yes	yes	yes	yes	yes	yes	yes
More regular	yes	yes	yes	yes	yes	yes	yes	yes	yes

Table 3.2: Characteristics of 'inflectional' morphology

3.1 Characteristics of inflectional morphology

The distinction between verbal inflectional and derivational morphology is not clear cut in Nomatsigenga. In general, the morphemes that appear furthest from the root are more inflectional than those that attach closer to the root. However, drawing a line between the last derivational slot and the first inflectional slot is difficult. Here, I describe the morphological slots that have at least some inflectional properties, although not all of these slots have all the properties of inflectional morpholoy. The dicussion here draws on the criteria given for distinguishing derivation from inflection found in Bybee (1985, p. 81-7) and Aikhenvald (2007, p. 36-38).

One of the criteria most commonly used to differentiate inflectional from derivational morphology is the concept of obligatoriness (Aikhenvald 2007; Bybee 1985). Obligatoriness, or the necessity of a given morpheme in a given syntactic construction, holds clearly for participant and reality status marking.

Closely tied up with the notion of obligatoriness is the idea of zero-marked morphology as indicative of an inflectional category (Bybee 1985). That is, the absence of a morpheme in a particular morphological slot can have just as much semantic content as the presence of an overt morpheme. I argue that this is the case for the category of aspect. Although they can occur with any aspect marker in elicitation settings, verbs often appear with no overt aspect marking in natural discourse. This is especially surprising, considering that there is a distinction between perfective and imperfective,

meaning that, intuitively, it seems that the vast majority of verbs should be marked in some way. However, I argue in other work that verbs are associated with inherent perfectivity or imperfectivity and aspect markers only need to be used when the event-specific perfectivity and the verb's inherent perfectivity value don't match up (Lawrence 2012). Thus, encountering a verb without an aspect marker does not mean that a speaker chose not to highlight the aspectual properties of the event (which would be characteristic of optional or derivational morphology), but that the normal assumptions about the perfectivity of the event can be made. Under this analysis, the lack of a marker or the use of a "zero" marker in either the core aspect or the Imperfective slot does mean something.

Unlike the other inflectional categories, number does not seem to be an obligatorily-marked category, since there are examples where there must be multiple participants involved in an action, but this is not marked on the verb in the number slot. Since Nomatsigenga does not distinguish between singular and plural for most person markers either, such utterances are ambiguous. On the other hand, since number markers are lexically general (applied to any word in the right class) and indicate relationships among the words in the sentence (see Table 3.2 above), I classify this morphology as inflectional.

A second criteria for inflectional morphology is that of lexical generality (Bybee 1985). All of the categories discussed as inflectional categories can be extended to a very large set of applicable lexical items. The discussion of aspect, above, would suggest that this generality is untrue for aspect mark-

ers. However, these markers *can* be combined productively with any verb, it's simply that some combinations are uncommon in text data. Interestingly, this lexical generality is also true of directionals. Although directionals are most commonly associated with motion verbs, Nomatsigenga directionals are also associated with other semantic classes of verbs. Such combinations have the meaning that the motion was a necessary part of doing some action (e.g., moving in some direction in order to do something upon arrival).

Traditionally, morphology that changes the word class of a root is defined as derivational morphology (Aikhenvald 2007). None of the morphology discussed here changes the class of a verb to any of the other major word classes (e.g., noun, adjective). Further, none of these markers change the membership of a verb from a class I to a class A verb (see §2.2.4 for a discussion of verb classes). There are several derivational verbal morphemes that *do* change the membership of verb roots from class I to class A or vice versa, such as the reciprocal morpheme *-abakag*. Use of *-abakag* results in the use of class A morphology, even when the root is normally class I. I do not include any morphology that causes a change in verb class among the discussion of inflection.

Inflectional morphology is often used to indicate the grammatical relationships among the words in a sentence (Aikhenvald 2007). In the Nomatsigenga verb, only subject and object cross-referencing and number are used to indicate clause-level grammatical relations. However, this is expected, since these categories are inherently agreement categories, and, by definition, in-

dicate grammatical relations. The other categories are inherent to the verb, and thus logically cannot indicate grammatical relations. On the other hand, aspect and related categories can be relevant to syntax when they are subordinate to another verb. For example, irrealis marking can be required on the second element of a verb sequence if the first verb is something along the line of *+kog*, 'to want.' Similarly, all elements of a serial verb construction must have the same aspectual values, making reality status and aspect markers of grammatical relationships within complex verb phrases.

As is characteristic of inflectional morphology, there are no gaps in the paradigms (Aikhenvald 2007, p. 36). All the morphology I classify as "inflectional" can be applied to any root. See §3.2, below, for a discussion of the combinatorial properties of inflectional morphology. There are several combinations of morphemes that are disallowed, simply because they are blocked by other constructions. These generalizations do not hold of derivational morphology. For example, there are gaps with applicative morphology, as can be seen by comparing (3.1) with (3.2), where the applicative marker *-bí* simply cannot be combined with the verb root *+ngo*, 'to cook,' even though there is no reason why the two shouldn't be combinable. On the other hand, all of the "inflectional" morphemes can be combined with any verb root.

(3.1) nakanTObíkeri.

na=	*kaN*	*-bí*	*-ak*	*-i*	*-ri*
1sS=	say	-APPL:PURP	-PFV	-REAL.I	-3mO

'I said it to him (for some purpose).'

(3.2) *nongobíTini

na=	*ngo*	*-bí*	*-i*	*=ni*
1sS=	cook	-APPL:PURP	-REAL.I	=IMP.A

'I'm cooking (for some purpose).'

Morphemes within an inflectional slot are not combinable, with the exception of a few combinations of object markers, when attached to a ditransitive verb (see section 3.2) for details. On the other hand, morphemes within a derivational slot can be combinable, as is the case in example (3.3), where two morphemes from the valence-adjusting position are combined.

(3.3) Maaba osarini **nanetsëkóbenTanaíro** timagantsika San Antonio.

maaba	*osarini*	*na=*	*nets*	**-okó**	**-beN**	*-an*	*-aj*	
three	year	1sS=	watch	-APPL:INDR	-APPL:BEN	-ABL	-REG	
-i	*-ro*	*tim*	*-agaN*	*-tsi*	*=ka*	*San*	*Antonio.*	
-REAL.I	-3nmO	live	-NMLZ	-UNPOSS	=DEM.PROX	San	Antonio.	

'For three more years, I'll watch out for this town, San Antonio.'
(RCjefe, 129.86s)

Aikhenvald (2007) notes that, when compared with derivation, inflectional morphology tends to form smallish systems, have high frequency, and be monosyllabic (p. 36). When compared to derivational morphology, all morphology discussed under the umbrella of inflectional morphology for Nomatsigenga belongs to a smaller systems or 'slots' than derivational morphology, is higher frequency than derivational morphology, is largely phonologically

'lighter' than derivational morphology, and exhibits more phonological regularity. The slots for inflectional morphology have a smaller number of options than the slots for derivational morphology. For example, the class of elements that can be found in a noun incorporation slot is large (at least twenty items), though closed. There are eight or nine distinct morphemes that can appear in valence-adjusting slot following the verb, and the class of "adverbial" morphemes, such as *-aniaN*, 'all night,' is similarly much larger than any of the inflectional slots. All morphology classed as inflectional is higher frequency than derivational morphology. All inflectional morphemes are monosyllabic and generally 'lighter' with respect to phonological content than derivational morphemes, which are up to three syllables, as is the case with the reciprocal morpheme *-abakag*. Finally, all allomorphy within inflectional morphemes is predictable based on immediate phonological context or verb class. There are some morphemes in Nomatsigenga for which allomorphy is not predictable. These are, crucially, all derivational morphemes, such as the purposive applicative *-bí*, which alternates with *-birí* or the associative causative *-akag*, which alternates with *-ak*.

3.2 Combinatorial properties

Due to the large number of categories marked on the verb, I will not present a traditional "paradigm," but will discuss combinatorial properties of morphology marked on the verb. Within the template slots, markers are not combinable, with the exception of object markers. On benefactive ditransitive

verbs, speech act participant recipients are marked by combining a first or second person object marker with one of the third-person markers, which agrees with the theme. When both the recipient and the theme are third-person arguments, the marker *-ne* marks the theme, while the recipient is marked with regular third-person arguments.

There are some restrictions on combinations of inflectional morphology, due largely to semantic restrictions or bocking by other morphology. The Irrealis prefix is only combinable with the irrealis suffix. Since verbs are inherently class A or class I, each verb combines only with two of the four reality status suffixes. In effect, this means that verbs must be either Realis or Irrealis (two options), although the category of Irrealis is doubly marked. The choice of Imperfective markers is dependent on the animacy of the absolutive argument, which means that Imperfective marking is, to some extent, dependent on verbal semantics (e.g., 'die' will not take an inanimate patient argument). But, for the most part, the two imperfective markers are also freely combinable with any verb. A first person singular/plural exclusive subject marker *na=* cannot be combined with the first person singular/plural exclusive object marker *=na*. Similarly, the second person subject marker *pi=* cannot be combined with a second person object marker *=mi*, nor can the first person plural inclusive subject marker *a=* be combined with the first person plural inclusive object marker *=ái*. These combinations are blocked by the reciprocal morpheme *-abakag* or the reflexive pronouns.

As shown in example (3.4a) below, the use of the first person plural

inclusive subject marker does not require the use of the plural number marker, as may be expected on logical grounds (more generally, plural marking is not required when either participant is plural). However, the two can appear together (3.4b), meaning that all combinations of these two markers are possible. The same is true of the first person plural inclusive object marker, *=ái*, which can appear with or without the plural marker, as in (3.4c-d). The first person plural inclusive object marker blocks the appearance of reality status suffixes, as can be seen in (3.4c-d). However, the irrealis *prefix* still appears with this object marker, meaning that such verbs must still be inflected as either realis or irrealis.

(3.4) **a.** akamake

a= *kam* *-ak* *-i*
1pS= die -PFV -REAL.I
'We all died.'

b. akamaíge

a= *kam* *-aíg* *-i*
1pS= die -PL -REAL.I
'We all died.'

c. igisái

i= *gis* *=ái*
3mS= hit =1pO
'He hit us all.'

d. igisaígái

i= *gis* *-aíg* *=ái*
3mS= hit -PL =1pO
'He hit us all.' *or* 'They hit us all.'

Accounting for the above restrictions, any intransitive verb can be combined with any of the five person markers, inflected as either realis or irrealis, receive one of the three directionals (or none), one of the two number markers (or none), one of the four core aspect markers (or none), may be marked with or without the translocative marker, and can be marked with either of the imperfective markers, or without one. This yields five options for subject marking, two for reality status, four for directionals, three for number, five for core aspect, two for translocative, and three for imperfective, giving a total of 3,600 possible forms for intransitive verbs.

With respect to normal transitive verbs, there are 22 possible subject-object combinations. The twenty-two possible subject-object combinations come from five subject markers multiplied by the five object markers, minus the three impossible combinations described above. As with intransitive verbs, there are two possibilities for reality status, four possibilities for directionals, three possibilities for number, five possibilities for core aspect, two for translocative, and three for imperfective, giving a total of 15,840 possible forms for transitive verbs.

Finally, the verb **p* 'give,' is a true ditransitive verb. This verb, as well as some transitive verbs that can participate in a benefactive alternation, mark two objects on the verb. This leads to thirty-four possibilities for

combinations of subject, recipient/beneficiary object, and theme object. The person marking combinations for verbs with two object markers are: first person singular/plural exclusive with: second person recipient and third person masculine or non-masculine theme, first person plural inclusive recipient and masculine or non-masculine theme, or a *-ne* marked theme and a masculine or non-masculine recipient (6 possibilities); second person with: first person singular/plural exclusive recipient and masculine or non-masculine theme, with first person plural inclusive recipient and masculine or non-masculine theme, or with a *-ne* marked theme and a masculine or non-masculine recipient (6 possibilities); first person plural inclusive with: a first person singular/plural exclusive recipient and a third person masculine or non-masculine theme or second person recipient with a masculine or non-masculine theme (6 possibilities); a third person masculine subject with: a first person singular/plural exclusive recipient and a masculine or non-masculine theme, a second person recipient and masculine or non-masculine theme, a first person plural inclusive recipient and a masculine or non-masculine theme, or a *-ne* marked theme and a masculine or non-masculine recipient(8 possibilities); a third person non-masculine subject with: a first person singular/plural exclusive recipient and a masculine or non-masculine theme, a second person recipient and masculine or non-masculine theme, a first person plural inclusive recipient and a masculine or non-masculine theme, or a *-ne* marked theme and a masculine or non-masculine recipient (8 possibilities). Combined with the two possibilities for reality status, four possibilities for directional marking, three options for

number, five for core aspect, two for translocative, and three for imperfective, these verbs have a total of 24,480 possible forms.

Table 3.3 shows the number of logical possibilities for each inflectional slot or combination of slots (in the case of subject/object combinations and reality status), as well as a total number of logical possibilities for each type of verb.

Valence	Subj./Obj.	Reality Status	Directional	Number	Core Aspect	Translocative	Imperf.	Total
Intr.	5	2	4	3	5	2	3	3,600
Trans.	22	2	4	3	5	2	3	15,840
Ditr.	34	2	4	3	5	2	3	24,480

Table 3.3: Number of freely-combining inflectional possibilities for intransitive, transitive, and ditransitive verbs

Chapter 4

Person Marking

4.1 Subject Marking Prefixes

In Nomatsigenga, as in most other Arawak languages, a clausal subject can be marked using a bound pronoun on the verb, or with a free noun or pronoun. The subject-marking proclitics are shown in Table 4.1. Subject markers are largely homophonous with possession markers, with the exception of a pre-vocalic allomorph of the third-person masculine form. See section 2.2.2, above, for an illustration of this homophony.

Person	Prefix
1 singular, plural exclusive	na=
2	pi=
3 non-masculine	o=
3 masculine	i=
1 plural, inclusive	a=

Table 4.1: Nomatsigenga bound pronoun proclitics

Free pronouns are shown in Table 4.2.

While forms similar to subject markers are used as possession markers on nouns, subject markers are less phonologically integrated with the verb stem than possession markers are with noun stems. As can be seen in examples (4.1-4.2), a possessive prefix causes noun stem-initial /p, k/ to become voiced.

Person	Prefix
1 singular, plural exclusive	naro
2	obiro
3 non-masculine	iroro
3 masculine	iriro
1 plural, inclusive	aro

Table 4.2: Nomatsigenga free pronouns

When the noun is not possessed, a noun stem-initial /p/ or /k/ is word-initial and unvoiced, but when possessed and marked with a possessive prefix, the sound is voiced. In example (4.1) below, the unpossessed version in (a) has a voiceless bilabial stop /p/, while the possessed version in (4.1a) has a voiced stop . In example (4.2), the unpossessed version in (a) has a voiceless velar stop, in the possessed version in (b), the stop is voiced.

(4.1) **a.** pongotsi

pongo -tsi
house -UNPOSS
'a house'

b. nobango

no -pongo
1SP -house
'my house'

(4.2) **a.** kitotsi

kito -tsi
head -UNPOSS
'a head'

b. nagito

na- kito
1SP- head
'my head'

The voiced and voiceless bilabial stops can both appear word-initially, as shown in examples (4.3-4.4); evidence that the bilabial stop in the unpos-

sessed example in (4.1) is underlyingly unvoiced, not simply devoiced word-initially.

(4.3) pomenaro

pi=	*N-*	*p*	*-e*	*=na*	*-ro*
2sS=	IRREAL	give	-IRREAL.I	=1sO	-3nmO

'Give it to me.'

(4.4) bairontsi

bairoN	*-tsi*
name	-UNPOSS

'a name'

With velar stops, the distinction between voiced and voiceless stops is neutralized word-initially. However, the two phonemes are distinct as the onset of stressed syllables, as shown in the examples in (4.5-4.6).

(4.5) aígíto 'right now' [ˌaí.ˈgí.to]

(4.6) aíkéró 'always' [ˌaí.ˈké.ro]

Although the word-initial neutralization makes it difficult to tell whether a nominal root has an underlyingly voiced or voiceless velar stop, all nominal roots beginning with a velar stop show the pattern in (4.2). This suggests that the voicing process happens with velar-initial noun stems, since we would

expect a distinction between /k/ and /g/ in possessed versions when the first syllable of the nominal stem is stressed.

This process doesn't occur with /t/, as can be seen in example (4.7), where a voiceless aveolar stop is used both when the noun is unpossessed (4.7a) and when it is possessed (4.7b).

(4.7) **a.** tangogitsi

tangogi	*-tsi*
eyebrow	-UNPOSS
'an eyebrow'	

b. natangogi

na-	*tangogi*
1SP-	eyebrow
'my eyebrow'	

On the other hand, subject markers do not trigger intervocalic voicing of /p/ and /k/. The stop-initial roots *kaN* 'to say' and *p* 'to give' are shown with subject markers in examples (4.8-4.9), where the initial stops /k/ and /p/ are not voiced.

(4.8) nakanTironi

na=	*kaN*	*-i*	*-ro*	*=ni*
1SS=	say	-REAL.I	-3nmO	=IPFV.ANIM
'I am telling her.'				

(4.9) nopëni

no=	*p*	*-i*	*=ni*
1SS=	give	-REAL.I	=IPFV.ANIM
'I am giving.'			

The following sections will discuss each subject marker and its allomorphs individually. However, it is important to note that the form of verbal person markers is sometimes dependent on a following segment (especially irrealis prefixes) that may not be present at surface level, which will be discussed in detail in section 8.3.1.

4.1.1 First-person singular/plural exclusive *na=*

The first-person marker has three allomorphs: *n=*, *no=* and *na=*. *n=* is found before vowel-initial stems, *no=* is used with stems that begin with a bilabial consonant or in which the first vowel is an /o/. *na=* is used with other stems–those that begin with a non-labial consonant *and* do not have an /o/ as the first vowel. This distribution is shown in (4.10).

(4.10) na= → { n= / ___V ; no= / {___C[+labial], ___C(j)o} ; na= / elsewhere }

In examples (4.11) below, the form *n=* is used with the vowel-initial roots *+isam* 'to sleep' (4.11 and *+ap* 'to eat' (4.12).

(4.11) nisamini

na=	*isam*	*-i*
1sS=	sleep	-REAL.I
=ni		
=IPFV.ANIM		
'I am sleeping.'		

(4.12) napini

na=	*ap*	*-i*
1sS=	eat	-REAL.I
=ni		
=IPFV.ANIM		
'I am eating.'		

Note that, in example (4.12), the root must be vowel-initial, since a stem with an initial /p/ would cause the form of the first-person marker to be *no=*.

The allomorph *no=* is found when the verbal stem begins with a bilabial consonant, or when the first vowel of a consonant-initial stem is /o/. This allomorph is a remnant of an unconditioned sound change in Nomatsigenga in which Proto-Kampa *a >o /_C[+labial] (Michael 2011). The form *no=* can be seen before /p/ with the root *+p* 'to give' in example (4.13) and before /m/ with the root *+maNchakí* 'to dress' in example (4.14).

(4.13) nopëni

na=	*p*	*-i*	*=ni*
1sS=	give	-REAL.I	=IPFV.ANIM

'I am giving it.'

(4.14) nomanchakíTani

na=	*maNchakí*	*-a*	*=ni*
1sS=	clothe	-REAL.A	=IPFV.ANIM

'I am getting dressed.'

The allomorph /no=/ is also used when the first vowel of a consonant-initial stem is /o/, as in example (4.15), where the root *+ngo* 'to cook' requires the allomorph *no=*.

(4.15) nongoTini

na= *ngo* *-i* *=ni*
1sS= cook -REAL.I =IPFV.ANIM
'I am cooking.'

Finally, the allomorph *na=* is used 'elsewhere'–before stems beginning with velar and alveolar consonants with any first vowel other than /o/. *na=* is shown with the alveolar-initial *+nets* 'to look' in example (4.16) and with the velar-initial stem *+gis* 'to hit' in example (4.17).

(4.16) nanetsini

na= *nets* *-i* *=ni*
1sS= die -REAL.I =IPFV.ANIM
'I am dying.'

(4.17) nagisiro

na= *gis* *-i* *-ro*
1sS= hit -REAL.I -3nmO
'I hit him.'

While this marker is most often used to indicate a first-person singular subject, it can also indicate a plural exclusive subject, as in example (4.18), where the subject marker *na=* is used, but the context of the story makes clear that the visiting party is composed of a boy and his sister. First-person plural inclusive reference requires a different subject marker–see §4.1.5 for details.

(4.18) Obiro nipogAsíTi.

obiro *na=* *ipok* *-sí* *-i*
2FOC.PRO 1sS= come -APPL:PURP -REAL.I
'We're coming to visit you.' (Shaver & Shaver 1976, p. 17)

4.1.2 Second person *pi=*

The second-person marker *pi=* also has three allomorphs. The allomorph *p=* is used with vowel-initial stems, *po=* is used with stems that begin with bilabial consonants, and *pi=* is used with all other stems, namely those that begin with an alveolar or velar consonant. This distribution is shown in (4.19).

(4.19) pi= → { p= / ___V ; po= / ___C[+labial] ; pi= / elsewhere }

p= is used with vowel-initial stems, as can be seen in examples (4.20) with the root *+ap* 'to eat' and (4.21) with the root *+og* 'to drink.'

(4.20) papë

pi= *ap* *-i*
2sS= eat -REAL.I
'You are eating.'

(4.21) pogani

pi= *og* *-a* *=ni*
2sS= drink -REAL.A =IPFV.ANIM
'You are drinking.'

The allomorph *po=* is used before stems beginning with bilabial consonants. The use of *po=* before /p/ can be seen in example (4.22) with *+p* 'to give,' and before /m/ in example (4.23) with the root *+maNchaki* 'to dress.'

(4.22) popëroni

pi=	*p-*	*i-*	*ro*	*=ni*
2sS=	give	-REAL.I	-3nmO	=IPFV.ANIM

'You are giving it.'

(4.23) pomanchakíTani

pi=	*maNchakí*	*-a*	*=ni*
2sS=	clothe	-REAL.A	=IPFV.ANIM

'You are getting dressed.'

Finally, *pi=* is used elsewhere, namely before all stems beginning with a velar or alveolar consonant, as can be seen in example (4.24) with *+sëba*, 'to whistle,' before the alveolar consonant /s/, and in example (4.25) with the root *+kaN* 'to say,' before the velar consonant /k/.

(4.24) pisëbaTini

pi=	*sëba*	*-i*
2sS=	whistle	-sc real.i
=ni		
=IPFV.ANIM		

'You are whistling.'

(4.25) pikanTini

pi=	*kaN*	*-i*
2sS=	say	-REAL.I
=ni		
=IPFV.ANIM		

'You are saying.'

Before stems that begin with labials, both the first and second person markers have allomorphic variants with /o/ (*no=*, *po=*); the two markers share this conditioning environment. However, while the first person marker allomoph *no=* is used before any consonant-initial stem where the first vowel is /o/, the second person *po=* is *not* used in the same context, as can be seen by comparing the examples in (4.26) below. Although the root *+ngo* 'to cook' triggers the first-person allomorph *no=* (4.26a), (rather than *na=*), the second-person marker is *pi=* (4.26b), rather than *po=*.

(4.26) **a.** nongoTini

no= *ngo* *-i* *=ni*
1sS= cook -REAL.I =IPFV.ANIM
'I am cooking.'

b. pingoTini

pi= *ngo* *-i* *=ni*
2sS= cook -REAL.I =IPFV.ANIM
'You are cooking.'

Other stems which take the *no=* variant for the first person marker, but the *pi=* allomorph for the second person marker include those listed below in (4.27).

(4.27)
- **jók* 'throw out'
- **kog* 'want'
- **komaNt* 'tell'
- **sobig* 'sit'
- **shoN* 'turn around'
- **tsoig* 'lie'

4.1.3 Third person non-masculine *o=*

The third person non-masculine subject marker is used with female animate and all inanimate subjects. It has two allomorphs, *p=* and *o=*. *p=* is used with stems that begin with vowels, while *o=* is used with consonant-initial roots, as shown in the rule in (4.28).

(4.28) /o=/ → $\begin{cases} \text{p=} & / & \text{\_\_V} \\ \text{o=} & / & \text{\_\_elsewhere} \end{cases}$

The *p=* allomorph is shown in examples (4.29) with the /i/ initial stem *+isam* 'sleep,' in (4.30) and (4.31) with the /a/ initial stem *+ap*, 'to eat' and *+ar*, 'to fly' and in example (4.32) with /o/ initial stem *+osami*, 'to ask.'

(4.29) pisamini

o=	*isam*	*-i*	*=ni*
3nmS=	sleep	-REAL.I	=IPFV.ANIM

'She is sleeping.'

(4.30) papë

o=	*ap*	*-i*
3nmS	=eat	-REAL.I

'She ate.'

(4.31) parapaíni

o=	*ar*	*-ap*	*-aj*	*-i*	*=ni*
3nmS=	fly	-ALL	-REGR	-REAL.I	=IPFV.ANIM

'She comes flying.'

(4.32) posamiTini

o= *osami* *-i* *=ni*
3nmS= ask -REAL.I =IPFV.ANIM
'She is asking.'

On the other hand, the allomorph *o=* is used with all consonant-initial roots: labial, alveolar, and velar. The use of the allomorph *o=* is shown in (4.33) with *+kam*, 'to die,' in (4.34) with the root *+p* 'to give,' in (4.35) with *+sëba* 'to whistle,' and in (4.36) with the root *+gis*, 'to hit.'

(4.33) okamake

o= *kam* *-k* *-i*
3nmS= die -PFV -REAL.I
'She died.'

(4.34) opëni

o= *p* *-i* *=ni*
3nmS =give -REAL.I =IPFV.ANIM
'She is giving.'

(4.35) osëbaTini

o= *sëba* *-i* *=ni*
3nmS= whistle -REAL.I =IPFV.ANIM
'She is whistling.'

(4.36) ogisironi

o= *gis* *-i* *-ro* *=ni*
3nmS= hit -REAL.I -3nmO =IPFV.ANIM
'She is hitting her/it.'

4.1.4 Third person masculine *i=*

The third-person masculine subject marker also has three allomorphs: *y=*, ∅=, and *i=*, as shown in (4.37).

(4.37) /i=/ → { y= / ___V[-high]; ∅= / ___i; i= / ___elsewhere }

y= is used before all vowel-initial verb stems except those beginning with /i/. The absence of /e/- and /ë/-initial verb roots means that *y=* appears before /o/- and /a/- initial roots, as seen in examples (4.38-4.41).

(4.38) yapë

i= *ap* *-i*
3mS= eat -REAL.I
'He ate.'

(4.39) yagankeni

i= *agaN* *-k* *-i* *=ni*
3mS= marry -PFV -REAL.I =IPFV.ANIM
'He is married.'

(4.40) yosamiTini

i= *osami* *-i* *=ni*
3mS= ask -REAL.I =IPFV.ANIM
'He's asking.'

(4.41) yogani

i= *og* *-a* *=ni*
3mS= drink -REAL.A =IPFV.ANIM
'He is drinking.'

Before /i/-initial stems, however, either the person marker or the first vowel of the stem is deleted, as can be seen with the root *+isam* 'to sleep' in (4.42), where there is a single /i/ (not lengthened) at the beginning of the word.

(4.42) isamini

i= *isam* *-i* *=ni*
3mS= sleep -REAL.I =IPFV.ANIM
'He is sleeping,'

With all consonant-initial stems, the form of the third-person masculine subject marker is *i=*, as seen in example (4.43), before a labial consonant in the root *+p* 'to give,' and in (4.44) before an alveolar consonant in the root *+sëba* 'to whistle,' and in (4.45) before a velar consonant in the root *+kaim* 'to shout.'

(4.43) ipëni

i= *p* *-i* *=ni*
3mS= eat -REAL.I =IPFV.ANIM
'He is eating.'

(4.44) isëbaTini

i= *sëba* *-i* *=ni*
3mS= whistle -REAL.I =IPFV.ANIM
'He is whistling.'

(4.45) ikaimini

i= *kaim* *-i* *=ni*
3mS= shout -REAL.I =IPFV.ANIM
'He is shouting.'

4.1.5 First person plural inclusive *a=*

There is a distinct first person plural marker, *a=*, used for first person plural inclusive subjects, although first person plural *exclusive* reference requires the use of the first person singular marker–see §4.1.1. In example (4.46), the inclusive plural is used.

(4.46) Ntsome angaime!

ntsome *a=* *N-* *kaim* *-e*
HORT 1pS= IRREAL- yell -IRREAL.I
'Let's go holler!'

The first-person exclusive marker /a=/ has three allomorphs: *a=*, *o=*, and ∅=, as shown in (4.47).

(4.47) /a=/ → $\begin{cases} \text{o=} & / & \text{\_\_\_\{C[+labial], Co \}} \\ \emptyset\text{=} & / & \text{\_\_\_ \{a, o\}} \\ \text{a=} & / & \text{\_\_\_ elsewhere} \end{cases}$

The allomorph *o=* is used before roots that begin with a labial consonant, or those that begin with a sequence of consonant plus /o/. This can be seen in example (4.48), where the stem begins with an /m/ and in (4.49), where the stem begins with the sequence /ŋo/ (*ngo*).

(4.48) Omaígëni.

a=	*N-*	*p*	*-aíg*	*-e*	*=ni*
1pS=	IRREAL-	give	-PL	-IRREAL.I	=IMP.A

'We'll eat.'

(4.49) ongoTaígini

a=	*ngo*	*-aíg*	*-i*	*=ni*
1pS=	cook	-PL	-REAL.I	=IPFV.ANIM

'We're cooking.'

The allomorph ∅= is used before /a/- and /o/-initial verb stems, as shown in example (4.50) with *+og* 'to drink,' (4.51) with *+ap* 'to eat.'

(4.50) ogaígani

a=	*og*	*-aíg*	*-a*	*=ni*
1pS=	drink	-PL	-REAL.A	=IPFV.ANIM

'We are drinking.'

(4.51) apaígini

a= *ap* *-aíg* *-i* *=ni*
1pS= eat -PL -REAL.I =IPFV.ANIM
'We are eating.'

With /i/-initial roots, the allomorph *a=* is used, as seen in example (4.52) before the root *+ijá*, 'to go' and (4.53) with *+inibá* 'to chat.' When used with /i/-initial roots, the use of *a=* causes the root-initial /i/ to disappear.

(4.52) ajáTaígini

a= *ijá* *-aíg* *-i* *=ni*
1pS= go -PL -REAL.I =IPFV.ANIM
'We're going.'

(4.53) anibáígini

a= *inibá* *-aíg* *-i* *=ni*
1pS= chat -PL -REAL.I =IPFV.ANIM
'We're chatting.'

The *a=* allomorph is also used before stems beginning with non-labial consonants, as in example (4.54), with the root *+nët*, 'walk.'

(4.54) Ntsome anëtanë!

ntsome *a=* *N-* *nët* *-an* *-e*
HORT 1pS= IRREAL- walk -ABL -IRREAL.I
'Let's walk!'

The behavior of *a=* with verb stems beginning with a long vowel /i:/ is unclear, since such roots are uncommon. However, the behavior of the possessive prefix *a-* may have a similar distribution. With nouns stems beginning in /i/, vowel hiatus with the possessive person marker *a-* is resolved by deleting the /i/, as shown in example (4.55). In the case of a long /i:/, the *a-* forms a diphthong with /i/, as shown in (4.56).

(4.55) angite

a-	*ingi*	*-te*
1pP-	peanut	-POSS

'our peanut'

(4.56) aitete

a-	*iite*	*-te*
1pP-	swarm	-POSS

'my swarm'

The person marker *a=* has the same distribution in Ashéninka–the first /i/ of an /i:/ sequence is deleted following *a=*, leaving a diphthong /ai/ (Payne 1981).

4.2 Object markers

In Nomatsigenga, the object is also marked on the verb. Table 4.2 presents the object markers.

The use of these object markers can be seen in examples (4.57) (first person singular), (4.58) (second person), (4.59) (third person non-masculine), (4.60) (third person masculine) and (4.61) (first person plural inclusive).

(4.57) pigisinani

Person	Marker
1	=na
2	=mi
3 non-masculine	-ro
3 masculine	-ri
1 plural inclusive	=ái

Table 4.3: Nomatsigenga object markers

pi= *gis* *-i* *-na* *=ni*
2sS= hit -REAL.I -1sO =IPFV.ANIM
'You are hitting me.'

(4.58) nagisimini

na= *gis* *-i* *-mi* *=ni*
1sS= hit -REAL.I -2sP =IPFV.ANIM
'I am hitting you.'

(4.59) nagisiro

na= *gis* *-i* *-ro*
1sS= hit -REAL.I -3nmO
'I hit her.'

(4.60) igisirini

i= *gis* *-i* *-ri* *=ni*
3mS= hit -REAL.I -3mO =IPFV.ANIM
'He is hitting him.'

(4.61) igisaígái

i= *gis* *-aíg* *=ái*
3mS= hit -PL =1pO
'He hit us'

The use of the first person plural inclusive marker also triggers the deletion of the reality status suffix, as can be seen in examples (4.62)-(4.63). Although (4.63) has an Irrealis prefix, no Irrealis suffix appears. Similarly, there is no Realis suffix between the verb root and the object-marking clitic in example (4.62), where it's normally found on verbs marked with other object markers. Reality status suffixes can be found in examples (4.57-4.60), using the object markers for the other four grammatical persons.

(4.62) ikomantaí

i= *komaNt* *=aí*
3mS= tell =1pO
'He told us.'

(4.63) teni ingomantaígái

teni *i=* *N-* *komaNt* *-aíg* *=ái*
no 3mS= IRREAL- tell -PL =1pO
'He didn't tell us.'

4.2.1 Third person theme marker *-ne*

With regular or derived ditransitives where both objects are third person, there is a special theme marker, *-ne*, which appears immediately before the object marker that agrees with the recipient. The use of this marker can be seen in examples (4.64-4.65). Note that the marker *-ne* must be referring to the theme object, since the regular third person object marker changes to reflect the gender of the recipient.

(4.64) ipëneri

i=	*p*	*-i*	*-ne*	*-ri*
3mS=	give	-REAL.I	-BEN.OBJ	-3mO

'He gave it to him.'

(4.65) ipënero

i=	*p*	*-i*	*-ne*	*-ro*
3mS=	give	-REAL.I	-BEN.OBJ	-3nmO

'He gave it to her.'

The *-ne* marker refers to the theme argument, but appears before a regular third person object marker, which marks the recipient. When one of the arguments is a speech act participant (first or second person), this pattern is reversed. The first or second person object marker, which agrees with the recipient argument, always precedes a third person argument, which agrees with the theme argument. This ordering of morphemes can be seen in example (4.66).

(4.66) nopëmiro

na=	*p*	*-i*	*=mi*	*-ro*
1sS=	give	-REAL.I	=2O	-3nmO

'I gave it to you.'

Chapter 5

Number marking

5.1 Plural marker *-aíg*

Nomatsigenga makes use of two different number markers on verbs. The first of these is a Plural, *-aíg*. Example (5.1) shows a verb without this marker–the interpretation is that the subject is singular, while example (5.2) shows the same marker, with the interpretation that the subject is plural.

(5.1) yogani

i=	*og*	*-a*	*=ni*
3mS=	drink	-REAL.A	=IPFV.ANIM

'He is drinking.'

(5.2) yogaígani

i=	*og*	*-aíg*	*-a*	*=ni*
3mS=	drink	-PL	-REAL.A	=IPFV.ANIM

'They are drinking.'

However, an utterance can have a plural interpretation even if the Plural marker is not used, as can be seen in example (5.3), where it has been established earlier in the story that the arriving party is made up of two children.

(5.3) yareepa

i= *aree* *-ap* *-a*
3mS= arrive -ALL -REAL.A
'They arrived.' (Shaver & Shaver 1976, p.17)

-aíg has two allomorphs, *-jíg* and *-aíg*. *-jíg* appears following vowels with high tone, while *-aíg* appears elsewhere. The distribution is shown in (5.4).

(5.4) -aíg → { -jíg / ___ V́ ; -aíg / ___ elsewhere }

This distribution can be seen below in examples (5.5-5.8). In (5.5), *-aíg* appears following a consonant-final stem and in (5.6), *-aíg* appears again after a vowel-final stem in which the vowel does not have high tone. However, in examples (5.7-5.8), following a stem ending in a high-tone vowel, the allomorph *-jíg* is used.

(5.5) nokogaígirini

na= *kog* *-aíg* *-i* *-ri* *=ni*
1sS= look -PL -REAL.I -3mO =IPFV.ANIM
'We're looking for him.'

(5.6) isingiTaígaka

i= *singi* *-aíg* *-k* *-a*
3mssʂ= drink -PL -PFV -REAL.A
'They got drunk.'

(5.7) itarobagáígini

i=	*tarobagá*	*-aíg*	*-i*	*=ni*
3mS=	work	-PL	-REAL.I	=IPFV.ANIM

'They're working.'

(5.8) ikaimëkóígina

i=	*kaim*	*-okó*	*-aíg*	*-i*	*=na*
3mS=	yell	-APPL.IND	-PL	-REAL.I	1SO

'He's calling to us.'

The morpheme *-aíg* is most likely a reanalysis of the Proto-Kampa **-hig* and a preceding epenthetic /a/ (Lawrence 2011). However, this analysis is not synchronically viable, since *-aíg* is used even after vowel-final stems–an epenthetic vowel is unexpected between a vowel-final stem and a consonant-initial suffix. However, rather than using *-jig* in these circumstances, the allomorph *-aíg* is used, and an epenthetic *consonant* /t/ precedes the morpheme. There would be no reason for this epenthetic consonant unless the morpheme were vowel-initial. This can be seen in example (5.6), above and example (5.9), below.

(5.9) yareeTaígapa

i=	*aree*	*-aíg*	*-ap*	*-a*
3mS=	arrive	-PL	-ALL	-REAL.A

'They arrived.'

Further, the rule in which the allomorph *-jig* is used after vowels with high tone seems to be in the process of being lost, in favor of the allomorph *-aíg* with a preceding epenthetic /t/, as seen in examples (5.10-5.11). In these examples, the (a) examples have the allomorph *-jig* and the (b) examples have the basic allomorph *-aíg* and a preceding epenthetic /t/, even following the same stem–suggesting that the historical reanalysis of epenthetic /a/ and the morpheme *-jig* as *-aíg* is almost complete.

(5.10) **a.** ikemokóígëni

i=	*kem*	*-okó*	*-aíg*	*-i*	*=ni*
3mS=	hear	-APPL:IND	-PL	-REAL.I	=IMP.A

'They heard (indirectly).'

b. ikemokóTaígina

i=	*kem*	*-okó*	*-aíg*	*-i*	*=na*
3mS=	hear	-APPL:IND	-PL	-REAL.I	=1sO

'They heard me (indirectly).'

(5.11) **a.** isigopíígAkaro

i=	*isig*	*-opí*	*-aíg*	*-k*	*-a*	*-ro*
3mS=	run	-APPL:PURP	-PL	-PFV	-REAL.A	-3nmO

'He ran on account of her.'

b. isigopíTaígAkaro

i=	*isig*	*-opí*	*-aíg*	*-k*	*-a*	*-ro*
3mS=	run	-APPL:PURP	-PL	-PFV	-REAL.A	-3nmO

'He ran on account of her.'

Shaver (1996) notes that the plural follows an absolutive pattern– that is, that the Plural marker can only give the absolutive argument plural reference. However, in a transitive clause, it is either the subject or the object that can be interpreted as plural, as shown in example (5.12), in which either or both arguments can be interpreted as plural.

(5.12) *ingemaígëri*

i=	N-	kem	-aíg	-e	-ri
3mS=	IRREAL-	listen	-PL	-IRREAL.I	-3mO

'They will listen to him.' *or*
'He will listen to them.' *or*
'They will listen to them.'

At this point, it is unclear whether or what the default interpretation is for a transitive verb with a plural marker when there is no context to support a specific interpretation.

5.2 Distributive marker *-gé*

There is also a Distributive marker, *-gé*, which can be seen in example (5.13). This example can be contrasted with an example of the same verb root in (5.14), without the Distributive marker. In the first example, the implication is that the action of conversion (into stones) took place many times in many places to many people.

(5.13) ipegantAgéTi

i= *peg* *-aNt* *-gé* *-i*
3mS= convert -HAB -DISTR -REAL.I
'He used to convert whatever.' (Shaver & Shaver 1976, p. 13)

(5.14) ipeganëri

i= *peg* *-an* *-i* *-ri*
3mS= convert -ABL -REAL.I -3mO
'He converted him.' (Shaver & Shaver 1976, p. 20)

Chapter 6

Directionals

Like other Kampan languages, Nomatisgenga has a set of verbal directional markers, *-ap*, Allative; *-an*, Ablative; and *-ob*, Receptive.

6.1 Allative *-ap*

The Allative *-ap* is shown in example (6.1), with the meaning that motion associated with the verb is following a path toward the deictic center.

(6.1) narapëni

na=	*N-*	*ar*	*-ap*	*-e*	*=ni*
1sS=	IRREAL-	fly	-ALL	-IRREAL.I	=IPFV.ANIM

'I will come, flying.'

The allative can also have the meaning to 'do to completion,' as shown in example (6.2).

(6.2) ipijooTapëro

i=	*pijoo*	*-ap*	*-i*	*-ro*
3mS=	blow	-ALL	-REAL.I	-3nmO

'He blew it out.'

The directional *-ap* is often used with verbs that do not denote a manner of motion. In these cases, the meaning is that the action is completed on the arrival of the subject, as in example (6.3), where the subject is commanded to drink. The use of the allative marker makes it clear that the speaker wants him to first come to his house and then drink there.

(6.3) Pogagapëmarini pikongiri orá pigaTina.

p=	*oga*	*-og*	**-ap**	*-ima*	*-ri*	*=ni*	*p-*
2sS=	CAUS-	drink	-ALL	-IRREAL.A	-3mS	=IPFV.ANIM	2sP-
ikongiri	*orá*		*pi=*	*ga*	*-i*	*=na*	
uncle	DEF.ART.nm		2sS=	order	-REAL.I	=1sO	

'Come and drink with your uncle, that which you told me prepare.'
(Shaver 1976, p. 13)

6.2 Ablative *-an*

The Ablative *-an* is used to give the meaning that the action is carried out in a path outward from the deictic center, as can be seen in the example in (6.4-6.5).

(6.4) isiganaka

i=	*isig*	*-an*	*-k*	*-a*
3mS=	run	-ABL	-PFV	-REAL.A

'He ran away.'

(6.5) opariganë

o= *parig* *-an* *-i*
3nmS= fall ABL -REAL.I
'It fell down, it rained.'

6.3 Receptive *-ob*

Finally, there is a third member of the directional paradigm, *-ob*. This is a 'Receptive,' used to indicate that the action is carried out as the object referent moves toward the subject referent, as shown in example (6.6-6.7).

(6.6) naníobëri

na= *nij* *-ob* *-i* *-ri*
1sS= see -RCPV -REAL.I -3mO
'I saw him when he arrived.'

(6.7) nakemobëri

na= *kem* *-ob* *-i* *-ri*
1sS= hear -RCPV -REAL.I -3mO
'I heard him when he arrived.'

Chapter 7

Aspect

Nomatsigenga has five aspect markers: a Perfective marker *-k*, a Progressive marker *-ats*, Regressive *-aj*, Habitual *-aNt*, Translocative *-iN* and Imperfective marking, with the allomorphs *=ni* and *=ti*. Perfective, Regressive, Habitual, and Progressive are all suffixed in the same "slot" in the morphological template, which I call "core aspect" (see §3). The Translocative marker is located in its own slot immediately to the right of the core aspect slot. Imperfective markers are verb-final enclitics. Perfective marking is discussed in §7.1, Regressive in §7.3, Translocative in §7.4, Habitual in §7.5 and Progressive in §7.6.

I defer the discussion of Imperfective marking until §9. Although I disagree with Shaver (1996), and maintain that Imperfective marking is a part of the aspect marking system, I take a structural approach to the verb, discussing verbal morphemes in the order in which they attach to the verb. I also present a detailed analysis of structural phenomena associated with Imperfective marking, as well as its historical development, which merits its own section.

7.1 Perfective *-k*

Like other Kampan languages, Nomatsigenga has a Perfective aspect marker, *-k*, as can be seen in example (7.1), where the default meaning is that the event is completed.

(7.1) nakamake

na= *kam* *-k* *-i*
1S= die -PFV -REAL.I
'I died.'

Although the default meaning is that the action is complete when the Perfective aspect marker is used, this is not always the case, as can be seen in the examples in (7.2), where the Perfective is combined with the Irrealis marker to create a future time meaning–suggesting that the marker is neither a past tense marker, or a marker of perfect aspect (in which case the default meaning would be that the action is to be completed at some point in the future). Rather, the marker presents a window in time, located somewhere in the future, in which the entire action is enclosed.

(7.2) **a.** nangamakeni

na= *N-* *kam* *-k* *-e* *=ni*
1S= IRREAL- die -PFV -IRREAL.I =IPFV.ANIM
'I'm going to die.'

b. irongoke

i=	*N-*	*ongo*	*-k*	*-e*
3mS=	IRREAL-	cook	-PFV	-IRREAL.I

'He will cook.'

At this point, it is unclear how irrealis clauses with the Perfective marker differ from irrealis clauses without the Perfective marker. Perfectives are usually characterized as describing "complete" action (Comrie 1976), or as referring to "bounded" action. Timberlake (2007) points out that the use of perfective marking entails three phases–a prior situation in which the state or activity demoted by the verb does not hold, a second phase of transition, and then a third phase, in which no more change is to be expected. The use of Irrealis marking to refer to future time seems to be redundant, in that by saying that the action will take place in the future, it is necessarily bounded. However, future time does not necessarily bound the action at the back end, since it does not entail the final phase in which the transition is "over." I suspect that the use of irrealis marking for future time without the perfective aspectual marker does not entail phase three (although it would probably be implied in most situations), while reference to future time *with* the perfective marking does entail this final phase. This will be tested in future work.

There are two forms of the perfective marker *-k*, although it is difficult to tell which is more basic. The allomorph *-k* is used after the placeless nasal /N/ and after long vowels or vowels with high tone. The use of the form *-k* can be seen in examples (7.3) with the root *+kaN*, 'to say' and after the benefactive applicative *-beN* in (7.4). It can also be seen with long and high

tone vowels in examples (7.5-7.6) with the roots *+aree* 'to arrive' and *+karáa* 'to cut.'

(7.3) ikanke

i= *kaN* *-k* *-i*
3mS= say -PFV -REAL.I
'He said.'

(7.4) inibábenkero

i= *inibá* *-beN* *-k* *-i* *-ro*
3mS= speak -BEN -PFV -REAL.I -3nmO
'He has spoken for her.'

(7.5) yareeka

i= *aree* *-k* *-a*
3mS= arrive -PFV -REAL.A
'He arrived.'

(7.6) ikaráka

i= *karáa* *-k* *-a*
3mS= cut -PFV -REAL.A
'He cut (it).'

The form *-ak* is used after consonants other than /N/. In conjunction with an epenthetic consonant /t/, it is also used with short vowels without high tone. This form can be seen in example (7.7), with the root **jóg* 'throw out, leave someplace.'

(7.7) nojógakero

na=	*jóg*	*-k*	*-i*	*-ro*
1sS=	leave	-PFV	-REAL.I	-3nmO

'I left her.'

Although the *-ak* form following consonants other than /N/ could also be interpreted as a sequence of an epenthetic /a/ and the suffix *-k*, the form *-ak* after a short vowel with non-high tone triggers the use of an epenthetic /t/, as in example (7.8), which suggests that the /a/ in the morpheme *-ak* cannot be epenthetic in these cases.

(7.8) ninibaTakero

na=	*iniba*	*-k*	*-i*	*-ro*
1sS=	speak	-PFV	-REAL.I	3nmO

'I talked to her.'

In other Kampan languages, the form of cognate perfective markers is *-ak*, with a preceding epenthetic /t/ when the verb stem is vowel-final (Michael 2008; Swift 1988; Mihas 2010; Snell 1998). However, it seems that Nomatsigenga speakers have reinterpreted the /ak/ sequence found in other languages as a sequence of epenthetic /a/ and the perfective morpheme *-k* in some examples–those ending with a high tone vowel or with the phoneme /N/.

Use of the Perfective marker causes the class I Realis suffix *-i* and the Class I irrealis suffix *-e* to neutralize to *-e*, as shown in example (7.9). In (a),

the verb is irrealis, which can be seen by the use of the irrealis prefix. In (b), the same verb is realis (note the absence of the irrealis prefix), but the reality status suffix surfaces as *-e*, although it underlyingly must be *-i*.

(7.9) **a.** iromanakeri

i=	*r-*	*oman*	*-k*	*-e*	*-ri*
3mS=	IRREAL-	throw	-PFV	-IRREAL.I	-3mO

'He will throw him.'

b. yomanakeri

i=	*oman*	*-k*	*-i*	*-ri*
3mS=	throw	-PFV	-REAL.I	-3mO

'He threw it.'

7.2 Function of Perfective/Imperfective aspect markers

I suggest that Nomatsigenga has both overt Perfective and Imperfective aspect marking. However, there are many verbs that appear in natural speech without any overt aspectual markers, such as the verb *+osami* 'live,' in example (7.10).

(7.10) PosamiTapënaro nanibare.

p=	*osami*	*-ap*	*-i*	*=na*	*-ro*	*na-*	*niba*	*-re*
2S=	ask	-ABL	-REAL.I	=1O	-3nmO	1P-	language	-POSS

'You asked about my language.' (MSSingles 14.44)

The preponderance of verbs with no aspect markers may suggest that the aspect markers simply have a very limited distribution, and that there are many events that speakers choose to portray as neither Imperfective nor Perfective. However, when looking at all the instances of a given verb root in the corpus, most roots generally appear with no aspect markers at all or with *either* Perfective or Imperfective marking. That is, most verb roots appear with only two of the three possible instantiations (bare, Perfective-marked, Imperfective-marked) in the corpus. For example, the verb *+ijá* 'go' often appears with no aspect marking or with Perfective marking, but rarely with Imperfective marking. From this data, I suggest that verbs in Nomatsigenga carry inherent aspectual implicatures, and that aspect markers function to cancel those implicatures when necessary. However, I leave the exact lexical semantics of verb aspect to later work. As I discuss in §3, above, this does not mean that marking aspect is optional (a characteristic of derivational morphology), but that it is obligatory under different conditions, depending on the verb root.

7.3 Regressive *-aj*

Nomatsigenga also has a Regressive aspectual marker with the form *-aj*, as shown in (7.11) and (7.12). Use of the Regressive gives the meaning that the subject of the verb returned to the site of the action in order to perform the action another time. Or, in the case of the example in (7.11), that the subject will return to do the action again. Due to an independent phonological

process, the /h/ is often deleted.

(7.11) irarapaéni

i=	*r-*	*ar*	*-ap*	*-aj*	*-e*	*=ni*
3mS=	IRREAL-	fly	-ALL	-REG	-IRREAL.I	=IPFV.ANIM

'He will come again, flying.'

(7.12) popaígaíni

po=	*p*	*-aíg*	*-aj*	*-i*	*=ni*
2sS=	give	-PL	-REG	-REAL.I	=IPFV.ANIM

'You are returning to give (it) again.'

The semantics of Nomatsigenga's Regressive marker, and of Translocative marking, as discussed in section 7.4 may seem to belong more to the domain of aktionsart or lexical aspect than inflectional aspect (see, for instance, (Smith 1991)). However, the Regressive marker occupies the same morphological 'slot' as Perfective marking and is not combinable with other aspect markers. Translocative marking has inflectional properties of its own, as discussed in §3, above. Therefore, I choose to treat these as part of the inflectional system, although they are not semantic values that are commonly treated inflectionally in the world's languages.

(7.13) *ikankaji

i=	*kaN*	*-k*	*-aj*	*-i*
3mS=	say	-PFV	-REGR	-REAL.I

'He returned and said it.'

7.4 Translocative *-iN*

Nomatsigenga also has a Translocative morpheme, *-iN*, as shown in example (7.14) and (7.15). This morpheme gives the meaning that the subject will physically go to another location in order to do something when they arrive–it also implies that they will return to their starting location later.

(7.14) yógaígënTani

i=	*óg*	*-aíg*	*-iN*	*-a*	*=ni*
3mS=	drink	-PL	-TRNSLOC	-REAL.A	-IPFV.ANIM

'They are going to go drink.'

(7.15) Omagaro yaágenTi kintori.

omagaro	*i=*	*aág*	*-iN*	*-i*	*kintori*
all	3mS=	eat	-TRNSLC	-REAL.I	fish

'They all went to eat fish.'

The translocative morpheme often follows the perfective morpheme *-k*, as in example (7.16), where the perfective morpheme immediately precedes the translocative. The form of the translocative is *-aki* in other Kampan languages (Michael 2008; Payne 1980; Swift 1988), suggesting that either the Nomatsigenga form or the form found in related languages is a reanalysis.

(7.16) "Aro ikanTirora irá ojime, 'ajákinTenta pongotsikëra."'

aro *i=* *kaN* *-i* *-ro* *=ra* *irá* *o-*
then 3mS= say -REAL.I -3nmO =DEM.PROX 3m.ART 3nmP-
jime *a=* *N-* *ijá* *-k* *-iN* *-e*
husband 1pS= IRREAL- go -PFV -TRNSLC -IRREAL.I
=nta *pongo* *-tsi* *-kë* *=ra*
=DEM.DIST house -UNPOSS -LOC =DEM.PROX
'He said, her husband, "Let's go and go to that house."

7.5 Habitual *-aNt*

Habitual aspect is marked with the suffix *-aNt*, as seen in example (7.17-7.18).

(7.17) "Pisamëntiniko omanapageri pingabiriTima?"

pi= *isam* *-aNt* *-i* *=ni* *=ko* *omanapage*
2S= sleep -HAB -REAL.I =IPFV.ANIM =INT.PRO rapidly
=ri *pi=* *N-* *ka* *-biri* *-ima*
=SUB 2S= IRREAL- get.up -APPL.PURP -IRREAL.A
'Why do you sleep so much? Get up, quickly" (VCsekari, 14.23s)

(7.18) Notomi, yaágantini piiri.

na- *otomi* *i=* *aág* *-aNt* *-i* *=ni* *pi-* *iiri*
1sP- son 3mS= eat -HAB -REAL.I =IPFV.ANIM 2P- father
'Son, your father eats (people).' (VCsekari, 42.71s)

While this morpheme most commonly takes the form *-aNt*, as seen in example (7.18), there is an allomorph *-ëNt* appearing after bilabials, as seen above in example (7.17).

7.6 Progressive *-ats*

Nomatsigenga has a Progressive marker, distinct from Imperfective marking (see §9), as shown in (7.19). This morpheme takes the form *-ats* with Class I verbs and *-ach* with Class A verbs (as a result of a general merger of /ts/ and /tʃ/ to /ts/ before /i/). Examples are shown in (7.19) and (7.20). Although the morpheme appears in the 'aspect' slot, it is uncommon in main clauses and appears to be undergoing some shift toward a marker of relativization.

(7.19) iáTatsi

i= *ijá* *-ats* *-i*
3mS= go -PROG -REAL.I
'He is going.'

(7.20) Pairi kanTatsi?

pairi *kaN* *-ats* *-i*
who talk -PROG -REAL.I
'Who's talking?' (Shaver 1975a, p. 1)

Examples of this morpheme are rare in elicitation (the above examples are found in Shaver (1975a), a description of verbal morphology). However, they are found in text examples, as in (7.21). The use of the stative allomorph *-ach* with a Class A verb can also be seen in this example, from Shaver & Shaver (1976)'s text collection.

(7.21) IaTi iake isingiTa ira singiTaígachari.

i=	*ijá*	*-i*	*i=*	*ijá*	*-k*	*-i*	*i=*	*singi*
3mS=	go	-REAL.I	3mS=	go	-PFV	-REAL.I	3mS=	drink
-a	*ira*		*singi*	*-aig*	*-ats*	*-a*	*-ri.*	
-REAL.A	DEF.ART.m		drink	-PL	-PROG	-REAL.A	-3mO.	

'They were going, they went to drink with those ones who are drinking.' (Shaver & Shaver 1976)

This aspect marker is largely confined to use in relative clauses, as in the example in (7.21). Shaver (1975a) refers to these morphemes as "progressive" (progresivo). However, text examples of this morpheme show that, in relative clauses, its use is not limited to verbs referring to in-progress action. For example, in the example in (7.22), the person has already arrived and left, rather than being on his way as the sentence is uttered, as expected if the morpheme was truly a progressive in these constructions.

(7.22) Teni, pitineri areeTacha.

teni	*pi-*	*tineri*	*aree*	*-ach*	*-a*
no	2P-	son-in-law	arrive	-PROG	-REAL.A

'No, it's your son-in-law who came.' (CCluna1, 175.57s)

The marker is also used in questions, as in the example in (7.23). Athough this example looks like a main clause use of this marker, I suggest that it is actually a focusing strategy that makes use of a relative clause (e.g, "who is it who came?"). Note the lack of person-marking on the verb, characteristic of main clause verbs.

(7.23) “Pairi areeTacha, nasinto?” okampéro.

pairi *aree* *-ats* *-a* *na-* *sinto* *o=* *kaN* *-ap*
who arrive -PROG -REAL.A 1P- daughter 3nmPS= say -ALL
-i *-ro*
-REAL.I -3nmO
“‘Who came, daughter?” she said.” (lit. “Who is it who came?”).
(CCluna1, 175.57s)

Although the marker is most common in relative clauses, it can occur in main clauses, as in the example in (7.24), where I argue that it has true Progressive semantics.[1]

(7.24) Ibaségatsi.

i= *baség* *-ats* *-i*
3mS= hit -PROG =REAL.I
‘He kept hitting (himself).’ (CCbosari, 35.79s)

The morpheme may actually have been reinterpreted as a marker of relative clauses. I have no examples of relative clauses without the Progressive suffix. The older semantics, that of progressivity, is also available and is mandatory when the marker is used in main clauses. However, the extent to which the two morphemes should be considered separate constructions is unclear. Ashéninka, Asháninka, and Matsigenka all have a cognate morpheme

[1]This example happens to come from one of the oldest speakers of Nomatsigenga.

that is associated with aspect (Payne 1980; Kindberg 1980; Snell 1998). However, there is no indication that these markers are strongly associated with relativization strategies.

Chapter 8

Reality Status Marking

Nomatsigenga obligatorily marks reality status in all clauses, using the morphology shown in Table 8.1.

	Class I	Class A
Realis	-i	-a
Irrealis	N- -e	N- -ima

Table 8.1: Reality status markers

Realis markers use suffixes, while Irrealis is marked with a combination of a prefix and a suffix. The two verb classes have distinct reality status suffixes, although the Irrealis prefix is the same for all verbs. The use of the suffixes can be seen on Class I verbs in example (8.1) and on Class A verbs in (8.2). For a discussion of verb classes in Nomatsigenga, see §2.2.4.

(8.1) **a.** nitsongiro

na= *itsong* *-i* *-ro*
1S= finish -REAL.I -3nmO
'I finished it.'

b. nitsongero

na= *N-* *itsong* *-e* *-ro*
1S= IRREAL- finish -IRREAL.I -3nmO
'I will finish it.'

(8.2) **a.** ipíaka

i= *peg* *-k* *-a*
3mS= disappear -PFV -REAL.A
'He disappeared.'

b. imíakema

i= *N-* *peg* *-k* *-ima*
3mS= IRREAL- disappear -PFV -IRREAL.A
'They will disappear.'

Irrealis markers are used for imperative formations (8.3), reference to future time (8.4), negated verbs (8.5), and some complement clauses, such as the complement of *+kog* 'want,' as shown in (8.6). Other constructions use Realis morphology.

(8.3) Pomenaro!

pi= *N-* *p* *-e* *=na* *-ro*
2S= IRREAL- give -IRREAL.I =1sO -3nmO
'Give it to me!'

(8.4) Yamë **irosarëTënani** yamëka.

yamë *i=* *N-* *osarë* *-e* *=na* *=ni*
now 3mS= IRREAL- violate -IRREAL.I =1sO =IPFV.ANIM
yamëka
now

'Right now, he's going to violate me.' (CCreydelosanimales 87.98)

(8.5) Sigaka **te irágobinTanëro** igarone.

isig	*-k*	*-a*	*te*	*i=*	*r-*	*ág*		*-obiN*
run	-PFV	-REAL.A	NEG.REAL	3mS=	IRREAL	-APPL.BEN		-ABL
-an	*-e*	*-ro*	*i-*	*karo*	*-ne*			
-REG	-IRREAL.I	-3nmO	3mP-	car	-POSS			

'He escaped, but he didn't grab his car.' (CCreydelosanimales 319.35)

(8.6) Nokogini nongomantëmiro.

no=	*kog*	*-i*	*=ni*	*no=*	*N-*	*komaNt*	
1sS=	want	-REAL.I	=IPFV.ANIM	1sS=	IRREAL	tell	
-e	*=mi*	*-ro*					
-IRREAL.I	=2O	-3nmO					

'I want to tell you about it.'

The use of negation with future time reference or imperatives creates a 'doubly irrealis' construction, in which case Realis morphology is used, as can be seen in example (8.7). Nanti also has a 'doubly irrealis' formation, in which clauses that combine two semantically irrealis elements receive Realis marking (Michael 2008, p. 380-382).

(8.7) Kero pitsorogi.

kero	*pi=*	*tsorog*	*-i*
NEG.IRREAL	2S=	scared	-REAL.I

'Don't get scared.' (CCreydelosanimales 299.14)

Note that there are also separate negation markers for realis and irrealis clauses. Clauses which are otherwise realis are negated with the marker *te(ni)*. The verbs in these clauses then receive Irrealis marking. However, clauses which are otherwise irrealis are negated with the marker *kero*, as seen in example (8.7), above. These clauses then take Realis morphology. I suggest that double irrealis marking may have to do with the need to mark clauses distinctively. Without special marking for 'doubly irrealis' clauses, in which two semantically irrealis elements are combined, there would be no way to distinguish between negated imperatives or statements about future time (on the one hand), and negated realis statements. The use of separate negation markers and patterns of morphological marking for negation of the two types of clauses allows speakers and hearers to distinguish the two.[1]

8.1 Class I reality status suffix allomorphy

The class I reality status suffixes display a complicated system of allomorphy, including neutralization of the two markers in a number of contexts. Table 8.2 shows the allomorphs that appear in all environments.

Despite this allomorphy, in imperative constructions (inherently Irre-

[1]This is a speculative argument. While it intuitively seems that there must be some way to distinguish the two types of negated clauses, it also seems that *either* separate negation markers *or* distinct morphology would be sufficient. However, I find an explanation based on the principle of distinctiveness preferable to the suggestion that negated imperatives or negated statements about future time are viewed as more definite or real (as the term 'realis' would suggest) by the Nomatsigenga than are positive-polarity imperatives or statements about future time.

Environment	*-i* surface form	*-e* surface form
Bilabials		
p_	ë	ë
p_=ni	-i	-ë
m_#	-ë	-ë
m_	-i -ë	-ë
Alveolars		
t_	-i ∼ -ë	-ë
t_#	-e ∼ -ë	-e ∼ -ë
n_	-ë	ë
Velars		
k_	-e	-e
k_, before =na/=mi	-i	-e
g_	-i ∼ -ë	-ë
ng_	-i	-ë
elsewhere (h_)	-i	e

Table 8.2: Class I reality status marker allomorphy

alis), the reality status suffix most commonly surfaces as *-e*, whether or not it is in a phonetic context which normally triggers allomorphy. Compare (8.8) with (8.9), where the reality status vowel is *-e* in the imperative and *-ë* in the future-time version.

(8.8) Pomenaro.

pi=	*N-*	*p*	*-e*	*=na*	*-ro*
2S=	IRREAL-	give	-IRREAL.I	=1SO	=3NMO

'Give it to me!'

(8.9) Nomëmiro.

na= *N-* *p* *-e* *=mi* *-ro* *=ni*
1sS= IRREAL- give -IRREAL.I =2sO -3nmO =IPFV.ANIM
'I'll give it to you.'

This is also true of constructions with the Hortative *ntsome*, as shown in example (8.10).

(8.10) Ntsome opaige!

ntsome *a=* *N-* *ap* *-aíg* *-e*
HORT 1pS= IRREAL- eat -PL -IRREAL.E
'Let's eat!'

Like the class I Irrealis suffix, the class A Irrealis suffix is also more faithful to the underlying morpheme in imperatives than in future time constructions. This faithfulness is shown in example (8.11), where the imperative version has the the underlying form of the morpheme *-ima*, and the future time variant carries the form *-ëma* in examples (8.11b) and (8.12), which is expected based on the phonetic context (following *-g*).

(8.11) **a.** Pógima!

pi= *N-* *óg* *-ima*
2S= IRREAL- drink -IRREAL.A
'Drink!'

b. Nógëmaro.

na= *N-* *óg* *-ima* *-ro*
1sS= IRREAL- drink -IRREAL.A -3nmO
'I'll drink it.'

(8.12) Irisigëma.

i= *N-* *isig* *-ima*
3mS= IRREAL- run -IRREAL.A
'He'll run.'

In most environments, *-i* and *-e* are neutralized to *-ë* after /p/, as shown in examples (8.13-8.14).

(8.13) nopëroni

na= *p* *-i* *-ro* *=ni*
1sS= give -REAL.I -3nmO =IPFV.ANIM
'I'm giving (it) to her.'

(8.14) pomëni

pi= *N-* *p* *-e* *=ni*
2S= IRREAL give -IRREAL.I =IPFV.ANIM
'You're going to give it.'

However, where the reality status suffix follows /p/, but precedes the Imperfective clitic *=ni*, the distinction between the Realis and Irrealis suffixes *is* maintained. The Irrealis suffix surfaces as *-ë*, but the Realis suffix surfaces as *-i*. This pattern can be seen in (8.15), where the Realis suffix is preserved as *-i*. In contrast, in example (8.16), the Irrealis suffix surfaces as (*-ë*).

(8.15) yapini

i= *ap* *-i* *=ni*
3mS= eat -REAL.I =IPFV.ANIM
'He's eating.'

(8.16) irapëni

i= *N-* *ap* *-e* *=ni*
3mS= IRREAL- eat -IRREAL.I =IPFV.ANIM
'He's going to eat.'

Word-finally after bilabials, both reality status suffixes surface as *-ë*, as shown in example (8.17-8.18) [Realis] and (8.19) [Irrealis].

(8.17) ikaimë

i= *kaim* *-i*
3mS= yell -REAL.I
'He yelled.'

(8.18) pisamë

pi= *isam* *-i*
2S= sleep -REAL.I
'You slept.'

(8.19) ingaimë

i= *N-* *kaim* *-e*
3mS= IRREAL- yell -IRREAL.I
'He's going to yell.'

When the reality status suffixes appear after /m/ but word-medially, the Irrealis suffix always surfaces as *-ë*, although the Realis suffix varies between *-ë* and *-i*. The variation in the Realis suffix is shown in the examples in (8.20), where the verb appears with the *-ë* surface form and (8.21-8.22), where the verbs surface with the suffix *-i*.

(8.20) ikaimëni

i= *kaim* *-i* *=ni*
3mS= yell -REAL.I =IPFV.ANIM
'He's yelling.'

(8.21) pisamini

pi= *isam* *-i* *=ni*
2S= sleep -REAL.I =IPFV.ANIM
'You're sleeping.'

(8.22) okémiri

o= *kém* *-i* *-ri*
3nmS= listen -REAL.I -3mO
'She listened to him.'

Word-medially after /t/, the surface form of the Realis suffix varies between *-i* and *-ë*, as shown in examples (8.23-8.24). Similarly, the Irrealis suffix appears as *-ë*, as seen in example (8.25).

(8.23) nakanTomóTiro

na= *kaN* *-omó* *-i* *-ro*
1sS= say -APPL.PRES -REAL.I -3nmO
'I said it in her presence.'

(8.24) otimaTëro

o= *tima* *-i* *-ro*
3nmS= pull -REAL.I -3nmO
'She pulled it.'

(8.25) ontimaTëro

o= *N-* *tima* *-e* *-ro*
3nmS= IRREAL- pull -IRREAL.I -3nmO
'She will pull it.'

On the other hand, when the Realis suffix appears in word-final position following /t/, both the Realis and Irrealis suffixes surface as either *-e* or *-ë*, as shown in examples (8.26-8.27) [Realis] and (8.28-8.29) [Irrealis].

(8.26) PikantaTe obiro.

pi= *kaNta* *-i* *obiro*
2S= sing -REAL.I 2.PRO
'You sang.'

(8.27) IkantaTë iriro.

i= *kaNta* *-i* *iriro*
3mS= sing -REAL.I 3m.PRO
'He sang.'

(8.28) PingantaTe?

pi= *N-* *kaNta* *-e*
2S= IRREAL- sing -IRREAL.I
'Are you going to sing?'

(8.29) Okogini ongantaTë.

o= *kog* *-i* *=ni* *o=* *N-* *kaNta*
3nmS= want -REAL.I =IPFV.ANIM 3nmS= IRREAL- sing
-e
-IRREAL.I
'She wants to sing.'

After /n/, both class I suffixes surface as *-ë*, as shown in example (8.30) [Realis] and (8.31) [Irrealis].

(8.30) opariganë

o= *parig* *-an* *-i*
3nmO= fall -ABL -REAL.I
'It rained.' (lit. 'It fell down.')

(8.31) nanëtanë

na= *N-* *nët* *-an* *-e*
1sS= IRREAL- walk -ABL -IRREAL.I
'I'm going to walk.'

After /k/, the class I suffixes neutralize to *-e*, as shown in (8.32-8.34). In example (8.32), the version without the perfective marker *-k* appears with the surface form *-i*. In (8.33-8.34), both verbs have a reality status marker with the surface form *-e*, although (8.33) is Realis, while (8.34) is Irrealis.

(8.32) nakémiri

na=	*kém*	*-i*	*-ri*
1sS=	listen	-REAL.I	-3mO

'I listened to him.'

(8.33) nakémakeri

na=	*kém*	*-k*	*-i*	*-ri*
1sS=	listen	-PFV	-REAL.I	-3mO

'I listened to him.'

(8.34) nangémisankerini

na=	*N-*	*kém*	*-isaN*	*-k*	*-e*	*-ri*	*=ni*
1sS=	IRREAL	listen	-EXTR	-PFV	-IRREAL.I	-3mO	=IPFV.ANIM

'I'm going to listen to him.'

When a first-person singular or second-person object clitic (*=na, =mi*), is used, *-i* and *-e* are neutralized after /k/, but they are neutralized to *-i*, as shown in (8.35-8.37), where the Realis suffix follows /k/ but surfaces as *-i*. Similarly, in (8.38), the Irrealis suffix follows /k/, but surfaces as *-i*.

(8.35) okankina

o= *kaN* *-k* *-i* *=na*
3nmS= say -PFV -REAL.I =1sP
'She said it to me.'

(8.36) ikisaniTakakina

i= *kisani* *-akag* *-i* *=na*
3mS= dream -CAUS.SOC -REAL.I =1sO
'He made me dream.'

(8.37) okankimi

o= *kaN* *-k* *-i* *=mi*
3nmS= say -PFV -REAL.I =2O
'She said it to you.'

(8.38) ingoirakina

i= *N-* *koir* *-k* *-e* *=na*
3mS= IRREAL- guard -PFV -IRREAL.I =1sO
'He's going to guard me.'

Most commonly, the neutralization of *-i* and *-e* to *-e* occurs after the Perfective suffix *-k*, but this has spread to all contexts following /k/, such as following the Sociative Causative morpheme *-akak*, as shown in (8.39).

(8.39) ibairaTakakena

i= *baira* *-akak* *-i* *=na*
3mS= dance -SOC.CAUS -REAL.I =1sO
'He made me dance.'

After /g/, the Realis suffix varies between *-i* and *-ë*, as seen in (8.40-8.41). The Irrealis suffix surfaces as *-ë*, as shown in (8.42).

(8.40) nisobigaígëni

na= *isobig* *-aíg* *-i* *=ni*
1sS= sit -PL -REAL.I =IPFV.ANIM
'We're sitting.'

(8.41) najiitaígiri

na= *jiit* *-aíg* *-i* *-ri*
1sS= call -PL -REAL.I -3mO
'We called him.'

(8.42) nakaígëri

na= *N-* *ak* *-aíg* *-e* *-ri*
1sS= IRREAL- accept -PL -IRREAL.I -3mO
'We didn't accept them.'

As was the case following /k/, the realis suffix sometimes surfaces as *-i* after /g/ and before the first-person object clitic *=na*, as shown in (8.43). However, the *-ë* variant is also found in this environment, as shown in examples (8.44-8.45).

(8.43) ikémokóígina

i= *kém* *-okó* *-aíg* *-i* *=na*
3mS= listen -APPL.INDR -PL -REAL.I =1sO
'They knew (lit. heard) about us (what we did).'

(8.44) ikaimëkóígëna

i=	*kaim*	*-okó*	*-aíg*	*-i*	*=na*
3mS=	yell	-APPL.INDR	-PL	-REAL.I	=1sO

'They yelled for me.'

(8.45) ichikaígëna

i=	*chik*	*-aíg*	*-i*	*=na*
3mS=	bite	-PL	-REAL.I	=1sO

'They bit me.'

After /ŋ/ (ng), the Realis suffix surfaces as *-i* (8.46), but the Irrealis suffix surfaces as *-ë*, as shown in example (8.47).

(8.46) nitsongiro

na=	*itsong*	*-i*	*-ro*
1sS=	finish	-REAL.I	-3nmO

'I finished it.

(8.47) notsongëroti

na=	*N-*	*itsong*	*-e*	*-ro*	*=ti*
1sS=	IRREAL-	finish	-IRREAL.I	-3nmO	=IPFV.INAN

'I'm going to finish it.'

Environment	Allomorph	Example
Bilabials		
p_	-ëma	(8.48)
Alveolars		
n_	-ëma	(8.49)
Velars		
k_	-ema	(8.50)
g_	-ëma	(8.51)
elsewhere	-ima	

Table 8.3: -ima allomorphy (Class A irrealis)

8.2 Class A Irrealis marker allomorphy

I suggest a class A Irrealis suffix *-ima*. Shaver (1996) decomposes this morpheme, analyzing *-e/-i/-ë* as a single "tense marker" appearing on class I (non-reflexive) verbs, and *-ma* as a "future, irrealis" morpheme for class A (reflexive verbs). However, this analysis means that class A verbs must carry both a class I suffix and a class A suffix (*-e/-i/-ë*), and a class A suffix *-ma*. Instead, I suggest that *-ima* has a number of allomorphs, on analogy with the class I Realis suffix *-i*. The distribution of these allomorphs is shown in Table 8.3. (To compare with class I Realis allomorphy, see Table 8.2, above). Examples follow in (8.48) [following /p/], (8.49) [following /n/], (8.50) [following /k/] and (8.51) [following /g/].

(8.48) irisigopëma

i=	*N-*	*isig*	*-ap*	*-ima*
3mS=	IRREAL-	run	-ALL	-IRREAL.A

'He'll come, running.'

(8.49) Pisiganëma.

pi=	*N-*	*isig*	*-an*	*-ima*
2S=	IRREAL-	run	-ABL	-IRREAL.A

'You're going to run.'

(8.50) imíakema

i=	*N-*	*peg*	*-k*	*-ima*
3mS=	IRREAL-	disappear	-PFV	-IRREAL.A

'They will disappear.'

(8.51) irisigëma

i=	*N-*	*isig*	*-ima*	
3mS=	IRREAL-	run	-IRREAL.A	

'He'll run.'

In other environments, such as following /t/ (as in example 8.52), the underlying morpheme *-ima* is maintained.

(8.52) irisiakinTima

i=	*N-*	*isig*	*-k*	*-iN*	*-ima*
3mS=	IRREAL-	run	-PFV	-TRNSLC	-IRREAL.A

'He'll go and run.'

Further evidence for analyzing *-ima* as a single morpheme comes from imperatives. Imperative constructions most commonly maintain the underlying form of the reality status suffix, regardless of phonetic context. For class I verbs, this suffix is *-e*, as shown in (8.53).

(8.53) Pope!

pi=	*N-*	*ap*	*-e*
2S=	IRREAL-	eat	-IRREAL.I

'Eat!'

If the class A irrealis marker were not an independent morpheme, the expectation would be that imperative forms of the irrealis marker would have the sequence /ema/: *-e* for the class I imperative, as shown above, and *-ma* for the class A irrealis suffix. However, the form that appears in class A imperatives is *-ima*, as shown in example (8.54), more evidence that this sequence is a single morpheme, rather than two.

(8.54) Pisigima!

pi=	*N-*	*isig*	*-ima*
2S=	IRREAL-	run	-IRREAL.A

'Run!

8.3 Irrealis prefix

Irrealis is marked with a prefix, in addition to the Irrealis suffixes. The Irrealis prefix is *N-*, a nasal unspecified for place of articulation. The prefix

has overt realization before stops /p t k/. Combinations of *N-* and stems beginning with /p/ and /k/ are subject to cluster reduction, with the stop deleting, leaving only a homorganic nasal. This process is shown with /p/-initial root in example (8.55) and with a /k/-initial root in example (8.56).

(8.55) **a.** nopëni

no=	*p*	*-i*	*=ni*
1S=	give	-REAL.I	=IPFV.ANIM

'I am giving it.'

b. nomëni

no=	*N-*	*p*	*-e*	*=ni*
1S=	IRREAL-	give	-IRREAL.I	=IPFV.ANIM

'I will give it.'

(8.56) **a.** okemiri

o=	*kem*	*-i*	*-ri*
3nmS=	listen	-REAL.I	-3mO

'She listened to him.'

b. ongemakeri

o=	*N-*	*kem*	*-ak*	*-e*	*-ri*
3nmS=	IRREAL-	listen	-PFV	-IRREAL.I	-3mO

'She will listen to him.'

r- is an allomorph of *N-* that is used with third-person masculine subjects when the verb stem begins with a vowel, which can be seen in the examples in (8.57) and (8.58).

(8.57) **a.** yógani

y= *óg* *-a* *=ni*
3mS= drink -REAL.A =IPFV.ANIM
'He is drinking.'

b. irókemani

i= *N-* *óg* *-ima* *=ni*
3mS= IRREAL- drink -IRREAL.A =IPFV.ANIM
'He is going to drink.'

(8.58) **a.** yarini

i= *ar* *-i* *=ni*
3mS= fly -REAL.I =IPFV.ANIM
'He is flying.'

b. irarapaéni

i= *N-* *ar* *-ap* *-aj* *-e* *=ni*
3mS= IRREAL- fly ALL -REGR -IRREAL.I =IPFV.ANIM
'He will come, flying.'

8.3.1 Irrealis with vowel-initial roots

Irrealis forms of vowel-initial roots are subject to complicated rule-ordering, which often results in a difference of the first vowel between the Realis form of the verb and the Irrealis form of the verb. This difference can be seen by comparing examples (8.59-8.60), where the [a] examples are the Realis forms and the [b] examples are the Irrealis forms. Shaver (1996) also notes this phenomena.

(8.59) **a.** nisamini

na= *isam* *-i* *=ni*
1sS= sleep -REAL.I =IPFV.ANIM
'I'm sleeping.'

b. nasamëni

na= *N-* *isam* *-e* *=ni*
1sS= IRREAL- sleep -IRREAL.I =IPFV.ANIM
'I will sleep.'

(8.60) **a.** napini

na= *ap* *-i* *=ni*
1sS= eat -REAL.I =IPFV.ANIM
'I'm eating.'

b. nopëni

na= *N-* *ap* *-e* *=ni*
1sS= IRREAL- eat -IRREAL.I =IPFV.ANIM
'I will eat.'

I argue that this distribution results from the Irrealis prefix *N-* taking on place features of the following consonant, even in situations where it is separated from the consonant by a vowel. These place features may trigger allomorphy in person-marking, especially where the first consonant of a verb stem is bilabial. In the case of vowel-initial roots, the *N-* prefix deletes due to phonotactic requirements. Finally, vowel hiatus is resolved by deleting the second in a sequence of vowels. This sequence of rules is shown in (8.61-8.64).

(8.61) *N*- → [α place] / _ V_0C[α place] (Nasal place assimilation)

(8.62) Subject-marking proclitics allomorphy rules

(8.63) *N*- → $\emptyset$ / V _ {V,C[+continuant]} (*N*- deletes except before an oral stop)

(8.64) V_2 → $\emptyset$ / V_1V_2 (Vowel hiatus resolution: V2 deletes)

The application of these rules is shown in Table 8.4.

Rule	nopëni	nasamaéni
Underlying Form	/na= N- ap -e =ni/	/na= N- isam -aj -e =ni/
(8.61)	na= N[+bilabial]- ap -e =ni	na= N[+alveolar] -isam -aj -e =ni
(8.62)	no= N[+bilabial]- ap -e= ni	–
(8.63)	no= ap -e =ni	na= isam -aj -e =ni
(8.64)	no= p -e =ni	na= sam -aj -e =ni
Surface Form	[nopëni]	[nasamëni]

Table 8.4: Rule ordering regarding Irrealis prefixes and subject-marking allomorphy

8.4 Defense of reality status as a Nomatsigenga category

Complicated allomorphy patterns and neutralization of the class I Realis and Irrealis suffixes calls into question whether the Realis and Irrealis suffixes are really representative of different categories, both language-internally and as a possible cognitive category for human language (see argument in Bybee (1998)). While it is likely that this system is currently undergoing change,

I claim that the distinction between Realis and Irrealis is (still) valid for Nomatsigenga, even though there are many instances in which the distinction is neutralized. First of all, class A verbs always show a distinction between Realis and Irrealis, although the Irrealis marker has several allomorphs.[2] Further, any verb root with an applicable phonetic shape shows a reality status distinction using prefixes, which may facilitate the neutralization of suffixes in some environments. The distinction between the class I suffixes *-i* (Realis) and *-e* (Irrealis) is maintained in all situations following /h/ (j), as shown in examples (8.65-8.66).

(8.65) pisamajini

pi=	*isam*	*-aj*	*-i*	*=ni*
2S=	sleep	-REGR	-REAL.I	=IPFV.ANIM

'You already went to sleep.'

(8.66) osamajeni

o=	*N-*	*isam*	*-aj*	*-e*	*=ni*
3nmS	IRREAL-	sleep	-REGR	-IRREAL.I	=IPFV.ANIM

'She's going to sleep again.'

[2]In a comment on an earlier draft, Anthony Woodbury points out that the allomorphy may actually make the analysis that reality status as an (inflectional) category stronger. The reality status distinction is imposed on the verb by the syntax, while the morphology has to make it work somehow. Neutralization of reality status suffixes could be analogous to, for instance, neutralization of nominative and accusative in Latin neuter nouns (Blake 2004, p. 19).

Finally, although speakers most commonly produce allomorphic forms, they will *accept* forms with the underlying form of the correct reality status marker. However, forms with the wrong underlying morpheme are judged to be ungrammatical. For example, the form in (8.67) is the preferred form of the Irrealis marker for the verb **p* 'to give'.

(8.67) nomëmiro (preferred)

na=	*N-*	*p*	*-e*	*=mi*	*-ro*
1sS=	IRREAL-	give	-IRREAL.I	=2O	-3nmO

'I'll give it to you.'

However, speakers will accept a form of the verb with the underlying form of the Irrealis suffix *-e*, as shown in (8.68).

(8.68) nomemiro (acceptable)

na=	*N-*	*p*	**-e**	*=mi*	*-ro*
1sS=	IRREAL-	give	-IRREAL.I	=2O	-3nmO

'I'll give it to you.'

However, speakers judge forms with the underlying form of the Realis suffix, as in example (8.69), to be unacceptable for an irrealis reading.

(8.69) *nomimiro

na=	*N-*	*p*	**-i**	*=mi*	*-ro*
1sS=	IRREAL-	give	-REAL.I	=2O	-3nmO

intended: 'I'll give it to you.'

Chapter 9

Imperfective Markers

9.1 Imperfective Marking

Nomatsigenga has an Imperfective-marking construction using the enclitics *=ni* and *=ti*, unlike what is found in other Kampan languages. The markers *=ni* and *=ti* are used to mark Imperfective aspect. This strategy can be seen in example (9.1), where (a) has (roughly) a sense of completedness, while the (b) example does not have this implication of completedness.

(9.1) **a.** napë

n= *ap* *-i*
1S= eat -REAL.I
'I ate.'

b. napini

n= *ap* *-i* *=ni*
1S= eat -REAL.I =IPFV.ANIM
'I'm eating.'

In this section, I will show that these markers are aspectual and that the aspect denoted by these markers is Imperfective, rather than the "imminent" label assigned to them in Shaver (1996). I will describe the formal properties

of the markers in §9.2 and the semantics of the construction in §9.3. Finally, I describe the historical development of these markers in §10.

9.2 Formal Description

The Imperfective construction is primarily marking of aspect, but must agree with the verb's absolutive argument with respect to animacy. This requirement of agreement with the absolutive is surprising since Nomatsigenga uses nominative-accusative alignment elsewhere. The marker *=ti* is used when the clause's absolutive argument is inanimate, while *=ni* is used with animates. This distribution is shown in example (9.2), where the absolutive argument is inanimate in (9.2a) and the verb takes the *=ti* Imperfective marker, while a verb with an animate absolutive argument requires *=ni*. Although the basis of Imperfective allomorphy based on properties of the absolutive argument is surprising, I give an analysis based on historical development in §10, below.[1]

(9.2) **a.** okarágimini

o=	*karág*	*-i*	*=mi*	*=ni*
3nmS=	cut	-REAL.I	=2O	=IPFV.ANIM

'She's cutting you.'

b. nitsongiroti

[1]In the world's languages, covariance of aspect marking and alignment is not unheard of, although imperfective is usually linked to nominative-accusative alignment on the one hand, and perfective and ergative-absolutive alignment are linked on the other hand. This is the case, for instance, in Yucatec Maya, where intransitive verbs follow a nominative pattern in the imperfect and an ergative pattern in the perfect (Krämer & Wunderlich 1999).

na= *itsong* *-i* *-ro* *=ti*
1sS= finish -REAL.I -3nmO =IPFV.INAN
'I'm finishing it.'

The examples below show agreement with the absolutive argument– in the intransitive examples below, agreement is with the S argument in the intranstive examples in (9.3). Compare to (9.2), above, where agreement is with the O argument.

(9.3) **a.** yarini

i= *ar* *-i* *=ni*
3mS= fly -REAL.I =IPFV.ANIM
'He's flying.'

b. Ora mopë pitsiganiti.

ora *mopë* *pi=* *tsigan* *-i* *-ti*
3nm.ART rock 2S= sink -REAL.I =IPFV.INAN
'The rock is sinking.'

Agreement operates on explicitly marked absolutive arguments. In cases where a logical object is not marked on the verb, agreement is with the subject. This can be seen in example (9.4), where the verb in (a) takes an agreement with the agent, but agreement is with the patient in (b). Although the same verb root is used, the lack of object marking in (a) forces agreement with the subject of the verb.

(9.4) **a.** nogëmani

na= *N-* *og* *-ima* *=ni*
1sS= irreal- drink -IRREAL.A =IPFV.ANIM
'I'm going to drink (it).'

b. nogëmaroti

na= *N-* *og* *-ima* *-ro* *=ti*
1sS= IRREAL- drink -IRREAL.A -3nmO =IPFV.INAN
'I'm going to drink it.'

Nomatsigenga is a nominative-accusative language, as shown in example (9.5), although faint traces of fluid-S alignment at an earlier stage of development can be found in adjectival agreement. The argument of an intransitive verb (9.5a) takes the same person marker as an agent of a transitive verb (9.5b).

(9.5) **a.** nakamake

na= *kama* *-k* *-i*
1sS= die -PFV -REAL.I
'I died.'

b. nagisironi

na= *gis* *-i* *-ro* *=ni*
1sS= hit -REAL.I -3nmO =IPFV.ANIM
'I am hitting her.'

The distribution of *=ni* and *=ti* requires positing a system of two noun classes, split on the category of animacy. However, other agreement marking, including subject and object marking on verbs, possessor marking on

nouns, and agreement on adjectives, picks out two different noun classes. For these markers, a "masculine" class consists of all male animates, while "non-masculine" picks out female animates and all inanimates. Crucially, the two systems differ with their treatment of female animates, which are treated as animates, but non-masculine. There are no masculine inanimates, leaving three total groups of nouns.

These data show that there are actually two cross-cutting noun classes in Nomatsigenga, one with a masculine/non-masculine distinction used for third-person pronouns, verbal person marking, possessive marking, and adjectival agreement. The other noun class system enocodes an animate/inanimate split and is used with Imperfective marking, shown above, as well as in some other contexts, such as the irregular verb *tojái*, meaning 'be many,' as shown in example (9.6), the existential verb *aintá/aití*, as shown in example (9.7), and numerals.

(9.6) **a.** tojáini baáka

tojái *=ni* *baáka*
many =IPFV.ANIM cow
'The cows are many.'

b. tojáiti mopë́

tojái *=ti* *mopë́*
many =IPFV.INAN rock
'The rocks are many.'

(9.7) **a.** Aintá pityapane.

aintá *pi-* *tyapa* *-ne*
EXIS.ANIM 2P- chicken -POSS
'You have chickens.' (lit. 'Your chickens exist.')

b. Aití pitsagine.

aití *pi-* *tsagi* *-ne*
EXIS.INAM 2P- bag -POSS
'You have a bag.' (lit. 'Your bag exists.')

With regular (non-derived) ditransitive verbs, the imperfective marker agrees with the recipient, as in (9.8).

(9.8) **a.** Ipërini itongi ochiti.

i= *p* *-i* *-ri* *=ni* *i-* *tongi* *ochiti*
3mS= give -REAL.I -3mO =IPFV.ANIM 3mP bone dog
'He's giving the bone to the dog.'

b. *Ipëriti itongi ochiti.

i= *p* *-i* *-ri* *=ti* *i-* *tongi* *ochiti*
3mS= give -REAL.I -3mO =IPFV.INAN 3mP- bone dog
Intended: 'He's giving the bone to the dog.'

The marker most commonly appears on main verbs, but can also appear cliticized on preverbal elements of the verb phrase, as with the Hortative *ntsome* in example (9.9) and with the negative marker *te*, as in example (9.10).

(9.9) "**Ntsomeni** oógëri."

ntsome **=ni** *a=* *N-* *oóg* *-e* *-ri*
HORT -IPFV.ANIM 1pS= IRREAL- kill -IRREAL.A -3mO
"Let's kill them!" (Octerroristas, 117.81s)

(9.10) Naroégi **teni** nongogaígëri.

naro *-hegi* *te* **=ni** *na=* *N-* *kog* *-aíg*
1s.PRO -PL NEG.REAL =IPFV.ANIM 1sS= IRREAL- want -PL
-e *-ri*
-IRREAL.I -3mO
'We didn't want to see them.' (OCterroristas, 119.23s)

9.3 Semantic description

The *=ti/=ni* markers are described by Shaver (1996) as 'imminent' markers. I suggest that the semantics of this constructions is most like an imperfective strategy, rather than present tense or progressive. The markers appear in clauses that refer to past time, such as in the example shown in (9.11), as well as future time, as shown in (9.12).

(9.11) Nijá opariáti kara piini otinina.

nijá *o=* *parig* *-a* *=ti* *kara* *o=* *iin*
water 3nmS= fall -REAL.A =IPFV.INAN INT.PRO 3nmS= be
-i *otinina*
-REAL.I lookout
'Water fell where there was a lookout.' (CCreydelosanimales 13.51)

(9.12) Nágetanënerini oká.

na= *N-* *áge* *-an* *-e* *-ne* *-ri*
1sS= IRREAL- grab -ABL -IRREAL.I -BEN.OBJ -3mO
=ni *oká*
=IPFV.ANIM DEM.PROX
'I'm going to grab all of what's here for him.' (CCreydelosanimales 146.05)

Imperfective marking can cooccur with both Realis and Irrealis marking, as shown in (9.13), where (a) carries Realis marking and (b) is Irrealis marked.

(9.13) **a.** nopëni

no= *p* *-i* *=ni*
1S= give -REAL.I =IPFV.ANIM
'I'm giving (it).'

b. *nomëni*
no= N- p -e =ni
1S= IRREAL- give -IRREAL.I =IPFV.ANIM
'I'm going to give (it) (I'm in the process).'

Imperfective markers can also cooccur with Perfective markers, as shown in example (9.14).

(9.14) ipariákeni

i= *parig* *-k* *-i* *=ni*
3mS= fall -PFV -REAL.I =IPFV.ANIM
'He has fallen.'

I suggest that the *=ni/=ti* markers are more like imperfectives, rather than progressives, on the basis of their ability to combine naturally with stative predicates. Timberlake (2007) notes that progressives are natural with processes but do not combine easily with statives. This is untrue of *=ni/=ti* in Nomatsigenga, which are used naturally with stative predicates, such as *+kog* 'want' (9.15), *+niNt* 'love' (9.16), and *+kiben* 'be big' (9.17).

(9.15) nokogini

na=	*kog*	*-i*	*=ni*
1sS=	want	-REAL.I	=IPFV.ANIM

'I want (it)'

(9.16) nanintimini

na=	*niNt*	*-i*	*=mi*	*=ni*
1sS=	love	-REAL.I	=2O	=IPFV.ANIM

'I love you.'

(9.17) Irá igibenakeroni yaaká ibagokëka.

irá	*i=*	*kiben*	*-k*	*-i*	*-ro*	*=ni*
3m.ART	3mS=	be.big	-PFV	-REAL.I	-3nmP	=IPFV.ANIM
yaaká	*i-*	*bago*	*-kë*	*=ka*		
DEM.PROX	3mP-	arm	-LOC	=DEM.PROX		

'He was big, here in his arms.' (CCreydelosanimales, 81.36)

In addition to the Imperfective markers' use with state predicates, there is another marker, *-ats*, in Nomatsigenga that appears to be a progressive

marker, as discussed above in §7.6. The existence of this marker also suggests that the markers *=ni* and *=ti* are not marking progressive aspect. Cognates of *-ats* are found in other Kampan languages with a 'present' (Kindberg 1980), 'stative,' (Snell 1998; Swift 1988) or 'progressive' reading (Payne 1981). In Nomatsigenga, this morpheme takes the form *-ats* with Class I verbs and *-ach* with Class A verbs. Although it appears that this morpheme is currently at least homophonous with a relative-marking strategy in Nomatsigenga (see §7.6, above), the older use of *-ats* as a progressive marker is still available, as shown in (9.18-9.19), repeated from (7.19-7.20), above.

(9.18) iáTatsi

i= *ijá* *-ats* *-i*
3mS= go -PROG -REAL.I
'He is going.'

(9.19) Pairi kantatsi?

pairi *kant* *-ats* *-i*
who talk -PROG -REAL.I
'Who's talking?' Shaver (1996, p. 30)

9.4 Synchronic Conclusions

In the above sections, I have described the Nomatsigenga Imperfective construction. I have demonstrated that the markers agree with the animacy of the absolutive argument. I have also presented arguments for analyzing this construction as an imperfective, rather than a progressive.

Chapter 10

Historical Origins

In this section, I reflect on what appear to be morphemes cognate to Nomatsigenga's Imperfective markers in other Kampan languages, in order to show that their function in Nomatsigenga is distinct from their function in related languages. I suggest that the Nomatsigenga Imperfective markers developed from the reanalysis of an adjectivizing construction and an 'augmentative' construction as a single construction.

10.1 Cognates in other Kampan languages

There are several constructions in other Kampan languages that appear to be cognate with Nomatsigenga's Imperfective markers. These possible cognates function as adjectivizers, relativizers, and 'augmentative' morphemes.

10.1.1 Cognates as adjectivizers

In Nanti, some probable cognates function as adjectivizers.[1] In Nanti, some adjectives are derived using *-ni*, and some underived adjectives, as well as numerals and quantifiers, show animacy agreement using *-ni/-ne* (animate)

[1]Thanks to Chris Beier for pointing this out!

and *-ti/-te* (inanimate) (Michael 2008).

Matsigenka uses *-ni* and *-ti* as animacy agreement on adjectives and numerals. On at least some adjectives, both animacy agreement and person marking proclitics co-occur on the adjective, as shown in example (10.1) (Snell 1998)[2].

(10.1) **a.** ityomiani (Matsigenka)

i= *tyomia* *-ni*
3mS= small -ANIM
'small (masculine, animate)'

b. otyomiani

o= *tyomia* *-ni*
3nmS= small -ANIM
'small (feminine, animate)'

c. otyomiati

o= *tyomia* *-ti*
3nmS= small -INAN
'small (feminine, inanimate)' (Snell 1998, p. 37)

From the documentation available, it is unclear how productive this strategy is in Matsigenka. It is also unclear whether these adjectives, which carry both person and animacy agreement, can also take other verbal inflection.

[2]ANIM 'animate adjectival agreement,' INAN 'inanimate adjectival agreement'

The data from Nanti and Matsigenka points to the possibility that the Nomatsigenga Imperfective markers actually function as adjectivizers. However, words which carry the Imperfective markers in Nomatsigenga act synchronically as verbs, based on their patterns of agreement and use of verbal inflection. Nomatsigenga does have a class of adjectives that show agreement with the head noun. They can be used predicatively but do not carry aspect inflection. Constructions with *=ni* and *=ti* do show agreement, but not following the same patterns as adjectives. They also do show tense and aspect inflection, unlike adjectives. In Nomatsigenga, there is an adjective class which shows agreement with the head noun using the same markers used for object marking on verbs, as shown in examples (10.2) and (10.3). (See §2.2.3 for a discussion of the evidence supporting a distinction between verbs and adjectives in Nomatsigenga, as opposed to an analysis of split-S alignment.)

(10.2) **a.** pashiniro pyari

pashini	*-ro*	*pyari*
tasty	-3nmO	masato

'tasty masato', 'The masato is tasty.'

b. pashiniri chaancho

pashini	*-ri*	*chaancho*
tasty	-3mO	pork

'tasty pork', 'The pork is tasty.'

(10.3) **a.** kachimaro tsínane

kachima *-ro* *tsínane*
bad -3nmO woman
'bad woman', 'The woman is bad.'

b. kachimari sërari

kachima *-ri* *sërari*
bad -3mO man
'bad man', 'The man is bad.'

Lexically, the distinction between verbs and adjectives is admittedly fuzzy in Nomatsigenga. Many roots can be used with both adjectival and with verbal inflection, as shown in examples (10.4) and (10.5). It is for this reason that I distinguish between verbal *constructions* and adjectival *constructions*– the class of adjectival lexical items is almost entirely made up of roots that are synchronically or historically derived from verb roots.

(10.4) **a.** katsëbaro koochiro

katsëba *-ro* *koochiro*
sharp -3nmO knife
'sharp knife', 'The knife is sharp.'

b. teni ongatsëbaTe koochiro

teni *o=* *N-* *katsëba* *-e* *koochiro*
NEG.REAL 3nmS= IRREAL- sharp -IRREAL.I knife
'the not-sharp knife', 'The knife isn't sharp.'

(10.5) **a.** tyapa patyari

tyapa *patya* *-ri*
chicken salty -3mO
'salty chicken,' 'The chicken is salty.'

b. teni omotyaTe

teni *o=* *N-* *potya* *-e*
NEG.REAL 3nmO= IRREAL- salty -IRREAL.I
'not salty,' 'It's not salty.'

Forms with *=ni* and *=ti* show the full range of verbal reality status morphology, while adjectives don't show any reality status morphology, as can be seen by comparing the (a) and (b) examples in (10.4) and (10.5). Imperfective marking co-occurs with directionals, which is also uncharacteristic of adjectives–see example (10.6) for one instance.

(10.6) narapëni

na= *N-* *ar* *-ap* *-e* *=ni*
1S= IRREAL- fly -ALL -IRREAL.I =IPFV.ANIM
'I will come flying.'

While one could make a case for adjectives being a subclass of verbs in Nomatsigenga, on the basis that they agree with the head noun using the same markers that verbs use to agree with their direct object (a fluid-S alignment system), this analysis seems problematic because adjectives don't behave in the same way as verbs with respect to other verbal morphological behavior, such as aspect and reality status marking (see the discussion in §2.2.3, above).

These facts suggest that constructions with the verbal markers *=ni* and *=ti* are best analyzed as verbal constructions, rather than as adjectives, since they take the full range of verbal morphology.

10.1.2 Cognates as relativizers

Another possible cognate of *=ni* is used as a relativizing strategy in Ashéninka Perené, as shown in example (10.7)[3].

(10.7) yamitakotahetakai amine pashini nyaavaihetatsini. (Ashéninka Perené)

y=	*amitako*	*-t*	*-a*	*-he*	*-t*	*ak*	*=ai*	*amen*
3m.A=	help	-EP	-REP	-PL	-EP	-PRF	=1PL.O	1PL.S.look.for
-i	*pashini*	*nyaavai*	*-he*	*-t*	*-atsi*	**=ni**		
-REAL	other	speak	-PL	-EP	-STAT	=REL		

'They helped us look for new language consultants.' (Mihas 2010)

However, the Nomatsigenga *=ni* morpheme does not seem to be a relativizer, since they can be used on the main verb in a sentence, as in (10.8).

(10.8) Imaerini.

i=	*N-*	*p*	*-aj*	*-e*	*-ri*	*=ni*
3mS=	IRREAL-	give	-REG	-IRREAL.I	-3mO	=IPFV.ANIM

'He will come and give it to him again.'

[3]EP 'epenthetic,' REP 'repetitive,' PRF 'perfective', PL.O 'plural, object,' PL.S 'plural, subject,' STAT 'stative,' REL 'relativizer'

10.2 From Adjectivizer to Imperfective

Despite the synchronic facts that suggest that *=ni* and *=ti* are not synchronically adjectivizers, it is probable that they served this function during an earlier stage of development.

n and *t* mark animacy distinctions in a number of constructions in Nomatsigenga, Nanti, and Matsigenka. Synchronically in Nomatsigenga, the verb *tojai*, meaning 'many,' takes the *=ni* and *=ti* markers, as shown in example (10.9).

(10.9) **a.** tojáini baáka

tojái	*=ni*	*baáka*
many	=IPFV.ANIM	cow

'many cows'

b. tojáiti mopë́

tojái	*=ti*	*mopë́*
many	=IPFV.INAN	rock

'many rocks'

There is also a similar distinction in the existential verb, as shown in example (10.10).

(10.10) **a.** aintá pityapane

aintá	*pi-*	*tyapa*	*-ne*
EXIS.ANIM	2P-	chicken	-POSS

'Do you have a chicken?' (lit: Do your chickens exist?)

	Animate	Inanimate
1	pa**ni**ro	pa**ti**ro
2	pite**ni**	pite**ti**
3	maba**ni**	maba**ti**

Table 10.1: Nomatsigenga numerals 1-3

b. aití poperi

aití *po-* *peri*
EXIS.INAN 2P- food
'Do you have food?' (lit: Does your food exist?)

Cognates of these irregular verbs are found in Nanti and Matsigenka (Michael 2008; Snell 1998). A possible cognate, *ainiro* 'to be,' is found in Kakinte (Swift 1988), although there is no parallel inanimate version.

The Nomatsigenga verb meaning 'to lack' also has two forms showing animacy agreement with *-ni* and *-ti–panibani* with animate nouns and *panibati* with inanimate nouns (Shaver 1996).

Nomatsigenga numerals up to three also distinguish animate and inanimate, as shown in Table (10.1).

The function of cognate markers in Nanti and Matsigenka, suggests that the Nomatsigenga markers showing an animacy distinction were historically adjectivizers. The function of these markers as adjectivizers can be seen in the examples in (10.11), repeated from (10.1), above. Structurally, these look very similar to the Imperfective-marked Nomatsigenga constructions. They include

an initial person marker, which doesn't occur synchronically with adjectives in Nomatsigenga, only with verbs, and a final morpheme *-ni*/*-ti*.

(10.11) **a.** ityomiani (Matsigenka)

i= *tyomia* *-ni*
3mS= child/small -ANIM
'small (masculine, animate)'

b. otyomiani

o= *tyomia* *-ni*
3nmS= child/small -ANIM
'small (feminine, animate)'

c. otyomiati

o= *tyomia* *-ti*
3nmS= child/small -INAN
'small (feminine, inanimate)' (Snell 1998, p. 37)

The Nomatsigenga evidence suggests that this adjectivizer was historically an unergative adjectivizer. That is, it could have derived an adjective that could only be used to describe what was an absolutive argument of the underived verb, such as the English adjectives using a participial derivation in (10.12).[4]

[4]These English adjectives also have a result-state reading. I do not claim the same for Nomatsigenga, only that they modify the same argument with respect to the underlying verb.

(10.12) **a.** 'the sewn shirt' (=the shirt that was sewn)

b. 'the given example' (=the example that was given)

c. 'the kicked man' (=the man who was kicked, *not* the man who kicked)

If the adjectivizers were used only to form unergative adjectives, this would actually predict the curious agreement pattern in Nomatsigenga, where the markers agree (in animacy) only with the absolutive argument. However, independent evidence is needed–perhaps from an investigation into *-ni* and *-ti* marked adjectives in Matsigenka.

Semantically, it seems that adjectivizers and imperfectives are compatible. Adjectives have the property of describing a state or quality. These are opposed to perfective semantics in that they both describe events as non-punctual.

10.3 From temporal intensification to Imperfective

In the Northern Kampan languages–Asháninka, Ashéninka and Kakinte–there do not seem to be markers corresponding to the noun class function of *=ni* and *=ti* in Nomatsigenga, Matsigenka and Nanti. However, there are verbal morphemes that I suggest are cognates. These markers, *-ni*, are homophonous with the animate-agreeing Imperfective, *=ni*. I suggest that these markers are cognate and can be traced back to a morpheme with the general function of intensifying the temporal properties of a verb.

In Ashéninka Perené. the morpheme *ni* has many functions subsumed under the category of 'augmentative.'[5] One of these is habitual, as seen in example (10.13), from Ashéninka Perené. Other general functions include intensifying the verbal action and indicating a temporal remoteness of the action.

(10.13) Iraaka, okantziro, 'Piraakapoo, ari pikantaitatyani pirapiraata.'

(Ashéninka Perené)

ira-	*ak*	*-a*	*o=*	*kaNt*	*-tz*	*-i*	*=ro*	*p=*	*ira*
cry	-PRF	-REAL	3m.m.A=	say	-EP	-REAL	=3n.m.O	2S=	cry
-ak	*-a*	*=poo*	*ari*	*pi=*	*kaNta*	*-it*	*-aty-*	*a*	
-PRF	-REAL	=EMPH	PP	2S=	be	-ICPL	-PROG	-REAL	
-ni	*pirapira*	*-t*	*-a*						
-AUG	2S.cry	-ep	-REAL[6]						

'She was crying and the mother said, "You cry too much, you're always like this, you cry and cry.' (Mihas 2010, p. 216)

This cognate augmentative morpheme *-ni*, can also be used for a durative reading, as shown in example (10.13). This morpheme is the final morpheme on the verb–the same position as the *=ni/=ti* markers in Nomatsigenga.

Kakinte also has a verbal morpheme *-ni*, called an 'augmentative,' which has a meaning of "in general" (habitual) as one of its functions. Other

[5]The term 'augmentative' is generally understood as a semantic notion applying (only) to nominals. As will be shown below, this is not the case for the Kampan morphemes discussed here. While the term 'augmentative' is problematic as used in this way, I use it to facilitate comparison of this data with previous literature and data on Kampan languages, which uses the word augmentative.

[6]3n.m.A 3rd-person non-masculine agent; EP epenthetic; ICPL incompletive; PP positive polarity; PERF perfective, AUG augmentative

functions include marking the verb as occurring in a distant time or place, or as a general intensifier. It is often used with continuative and perpetuative morphemes, as in example (10.14).

(10.14) Notinahaβaetani saβiNkaɣitetanahi. (Kakinte)

no-	*tinah*	*-a*	*-βae*	*-t*	*-a*	**-ni**	*saβiNkaɣite*	*-t*	*-an*
1-	wake.up	-EP	-CONT	-EP	-NFR	**-aum**	day	-EP	-ABL
ah	*-i*								
-REGR	-NF								

'I woke up after a long time and met the day again.' (Swift 1988, p. 90)

In Matsigenka, a verb-final morpheme *-ni* is termed a 'durative malefactive,' meaning that the action described by the verb continues for an excessively long time. Furthermore, there is a nominal augmentative in Matsigenka that takes the form *-ni* (Michael, p.c.).

Asháninka has a verb-final morpheme *-ni*, which has the meaning that the action described by the verb was completed long ago, as shown in example (10.15)[7].

(10.15) Otimini. (Asháninka)

o=	*tim*	*-i*	*-ni*
3nmS=	live	-REAL.I	-DIST.PAST

'She lived long ago.' (Kindberg 1980, p. 465)

[7] DIST.PAST; 'distant past'

Function	Found in
Habitual, "in general"	Ashéninka, Kakinte
General intensifier	Ashéninka, Kakinte
Durative, "too much"	Matsigenka
Remote time	Ashéninka, Asháninka, Kakinte

Table 10.2: Functions of Proto-Kampa augmentative suffix *-*ni*

This evidence suggests that Proto-Kampa had some sort of temporal extension morpheme, *-*ni*. From the evidence found in contemporary languages, this morpheme must have had a similar function to that found synchronically in Ashéninka and Kakinte, where it has the generalized function of intensifying or extending temporal properties of the verb, whether that is tense (remote past readings) or aspectual (durative or habitual readings).

By comparing the functions of -*ni* cognates in Ashéninka, Asháninka, Kakinte, and Matsigenka, the list in Table (10.2) is a list of probable semantic attributes of the Proto-Kampa temporal intensification morpheme.

Habitual, durative, and progressive/imperfective semantics are all related. I suggest that the Proto-Kampa augmentative morpheme had the semantic properties described above, and that the Imperfective in Nomatsigenga developed from the habitual and durative sense of the older augmentative.

10.4 Conflating adjectivizers and Augmentatives

By comparing related languages, it seems clear that at some point in Nomatsigenga's historical development, Nomatsigenga most likely had both a *-ni* verbal suffix with the function of intensifying temporal properties of the verb and an adjectivizing strategy with *-ni* and *-ti*, which agreed with the head noun in animacy. I argue that these distinct constructions became conflated in Nomatsigenga as a single construction, based both on structural and semantic similarities.

The adjectival constructions and the verbal constructions must have been very similar structurally. Compare the Matsigenka adjectival constructions in (10.16) [repeated from (10.1) above] with the Asháninka Augmentative-marked constructions in (10.17) [repeated from (10.15) above]. Both constructions have a prefixed person-marker and a verb-final *-ni* or *-ti* form.

(10.16) **a.** ityomiani (Matsigenka)

i=	*tyomia*	*-ni*
3mS=	child/small	-ANIM

'small (masculine, animate)'

b. otyomiani

o=	*tyomia*	*-ni*
3nmS=	child/small	-ANIM

'small (feminine, animate)'

c. otyomiati

o= *tyomia* *-ti*
3nmS= child/small -INAN
'small (feminine, inanimate)' (Snell 1998, p. 37)

(10.17) Otimini. (Asháninka)

o= *tim* *-i* *-ni*
3nmS= live -REAL.I -DIST.PAST
'She lived long ago.' (Kindberg 1980, p. 465)

In addition to the structural similarities, the two markers are semantically compatible. In general, the durative and habitual functions of the Augmentative marker present a view of an event as longer than a punctual, bounded event typical of verbs. The habitual usage functions to make the action of the verb a property of (one of) the verb's arguments. Similarly, the least-marked function for adjectives is to denote properties (Croft 2000).

The conflation of an adjectivizing construction and the Augmentative construction would have created a single construction with possible meanings of durativity and habituality. By basic properties of semantic bleaching, this most likely easily developed into an Imperfective strategy–habituals, progressives, and imperfectives are all closely related aspectual categories (Bybee et al. 1994).

10.5 Conclusions on Historical Development

I have shown using comparative evidence that Proto-Kampa most likely had an Augmentative morpheme **-ni*. This morpheme had various functions,

including denoting habituality and durativity. I also show that it is likely that, at some point in its historical development, Nomatsigenga also had an adjectivizing strategy using *-ni* and *-ti*, based on cognate constructions in Nanti and Matsigenka. These two distinct constructions became conflated, due to both structural and semantic compatibility. After the two were conflated as a single construction, the semantics underwent bleaching, ultimately leading to the synchronic Imperfective-marking function.

Some reflection on the validity of the above claims is deserved. In historical linguistics, the comparative method, or making discoveries about language via the reconstruction of morphemes on the basis of cognate forms from related languages, is considered the standard of proof. I have attempted to do this as much as possible. However, much of the change I have demonstrated above that has resulted in the function of *=ni* and *=ti* as Imperfective markers in Nomatsigenga must be language-internal, and therefore must rely on internal reconstruction and language-internal evidence. Strong evidence in favor of this hypothesis would come from 'bridging' contexts in Nomatsigenga, in which forms with Imperfective markers have properties of both the current construction (imperfective marking) and properties of an older construction (adjectivizers, augmentative marking). However, no clear examples of such bridging contexts have emerged in my corpus.[8] As always, the historical scenario I propose here may be proven false given further work and more data.

[8]For a discussion of internal reconstruction as method, see Givón (1999).

Chapter 11

Conclusion

In the preceding sections, I present a description of inflectional verbal morphology in Nomatsigenga. With respect to descriptive work on the language, this work represents the most complete description to date of the language's verbal morphology, as well as providing the first description of topics such as alignment and identification of word classes. The inflectional categories marked on the verb in Nomatsigenga include participant marking for subject and up to two objects, number, directionals, aspect, and reality status, all of which I discuss above. In the description, I have included details about the semantic content contributed by each morpheme, allomorphy patterns, and use restrictions. I present a template accounting for all inflectional possibilities in Nomatsigenga and touch on important phonological and morphophonological phenomena, as they are important with respect to the verb.

I address several topics with respect to the verb as a whole and verb syntax. I discuss alignment, showing that although Nomatsigenga exhibits both nominative-accusative behavior as well as ergative-absolutive behavior on the verb, it no longer exhibits fluid-S alignment with respect to verb morphology. I demonstrate criteria by which verbs can be distinguished from the

other major word classes of noun and adjective and describe two cross-cutting Nomatsigenga verb classes. Of these verb classes, the class of stem-chaning verbs is easily defined on phonological criteria. The other verb class distinction, between class I and class A ('reflexive' and 'irreflexive' in earlier literature) is a historical remnant, although the semantic basis by which these classes were differentiated is still apparent. I also present some criteria by which inflectional and derivational verbal categories can be differentiated in Nomatsigenga.

With respect to Kampan and Arawak languages more generally, the paper describes ways in which Nomatsigenga departs from the "typical" Kampan pattern, especially with respect to reanalysis of the verbal Plural marker *-aíg*, the Perfective marker *-k*, and the Translocative *-iN*. Reality status marking also departs from the other Kampan languages, both with respect to widespread neutralization of class I suffixes and a complicated rule ordering deriving distinct Realis and Irrealis forms in the case of vowel-initial roots. Nomatsigenga also departs from the Kampan norm by losing all traces of fluid-S alignment and developing a system of Imperfective-marking.

From a typological standpoint, I have described several interesting aspects of Nomatsigenga grammar. First, Nomatsigenga's reality status system is inherently interesting–while reality status is a relevant category in many of the world's languages, few mark the distinction in every clause, prompting the suggestion that reality status is not a true psychological category (Bybee 1998). Nomatsigenga also exhibits an interesting system of two cross-cutting noun classes, based on gender and animacy. Interestingly, different pieces of

verb morphology agree with each of these classes–third person subject and object markers are differentiated on the basis of gender, while Imperfective morphology agrees on the basis of animacy. These same markers also distinguish two different alignment systems, with subject and object marking exhibiting nominative-accusative alignment, while Imperfective-marking follows an ergative-absolutive pattern. While the discussion of Imperfective marker grammaticalization is necessarily limited by the lack of data available on cognate forms, it is an example of an interesting grammaticalization path. To the extent that this argument holds up, the development of an imperfective marker from the reanalysis of an temporal intensification marker and an adjectivizing system provides an interesting counterexample to the robust cross-linguistic generalization that most imperfective markers grammaticalize from progressive-marking constructions.

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